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Office of the Director

1986 Annual Report

October 1, 1985-
September 30, 1986

U.S. DEPARTMENT
OF HEALTH
AND HUMAN SERVICES

National
Institutes of
Health

National
Cancer
Institute

Bethesda,
Maryland 20892

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NATIONAL CANCER INSTITUTE

OFFICE OF THE DIRECTOR

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October 1, 1985 through September 30, 1986

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OFFICE OF THE DEPUTY DIRECTOR

OFFICE OF THE DIRECTOR

NATIONAL CANCER INSTITUTE

PROGRAM ACTIVITIES REPORT, October 1, 1985 through September 30, 1986

General Framework of Responsibility

The mission of the Office of the Deputy Director can best be described as that which involves the implementation of scientific coordination among the Divisions of the National Cancer Institute. The effort areas transcend the expertise inherent in a single division. The formation and rearrangement of scientific units, the incorporation of new developments in science into intramural management structures, and the general consideration of intramural support are of major concern. The Frederick Cancer Research Facility (FCRF) system of research and support contracts is a major responsibility. Coordination of intramural science also extends to the questions of animal research, biosafety, and the determination of patent status rights in derivative inventions, as well as all interactions with the NIH Division of Management Survey and Review.

Intramural Scientific Coordination

In a number of intramural research areas, the content of science is greater than the mission of a given Division. Coordination often involves the formation or restructuring of basic science laboratories. This has occurred and is occurring with all Divisions. Close advisory and consulting activity with the Director and Division Directors is mandatory. At times, transdivisional shifts of personnel and efforts are recommended. Eventually a consensus option is reached relative to the final proposed laboratory structure. This is discussed and decided upon by the Executive Committee.

The second element involves inter-laboratory, inter-divisional cooperation on timely topics, usually in breakthrough areas of science. At times, these interactions are intense but not structured. Areas of key national importance may be considered. Close input occurs on a regular basis by pertinent intramural personnel as well as by members of the NCI advisory bodies. The information is transmitted to the Director, NCI, on an ongoing basis, because he makes the final decisions in the areas of dramatic scientific paradigm changes. The commitment of the Institute to new activities results from this input.

A major activity of the past year has been the acquisition of the first supercomputer to be dedicated to biomedicine. A reformulation of the Laboratory of Molecular Biology in DCBD took place around advanced computing capabilities. The office of the Deputy Director continues the collaboration with DCBD to get an optimal working format for this activity. The infrastructure support for the supercomputer is a dedicated unit of the PRI contractor. The location at the FCRF, and the structuring of the operation within NCI's large technical and support contract has been accomplished and the supercomputer is currently operating at full capacity.

A formal and defined mechanism for scientific coordination, especially in the avant garde areas of science is defined by the FY85 Office of the Director Continuing Seminar Series. Although the primary purpose is the transmission of novel information to the Executive Committee, other purposes are served as well. For example, controversial claims and observations are evaluated, new intramural findings are discussed in detail, and other timely topics of general interest to NCI, which may affect long range planning, are considered. A number of key seminars took place in the past year.

Frederick Cancer Research Facility

The Frederick Cancer Research Facility (FCRF) located in Frederick, Maryland, is a Government-owned facility which is operated as a Federally Funded Research and Development Center (FFRDC) under a system of five contracts. Overall responsibility for the FCRF lies with the Deputy Director, NCI, while on-site NCI management is through a General Manager/Project Officer and a Contracting Officer representing the Office of the Director and the Research Contracts Branch, respectively.

Research activities at the FCRF are carried out by both Contractor personnel and intramural personnel associated with the NCI. In addition, Government-operated laboratories associated with NIAID and NINCDS are housed at the facility. The chartered FCRF Advisory Committee serves an advisory role by evaluating the overall operation of the facility and by conducting peer reviews of research programs under the Basic Research Contractor. The Committee's evaluations and recommendations are submitted to the Director, NCI, who holds final decision-making authority.

Laboratories within the Basic Research Program are reviewed every three years, with two reviews being held each year. During the current reporting period, the Laboratory of Molecular Virology and Carcinogenesis and the Laboratory of Genetics and Recombinant DNA were reviewed in depth, and several recommended changes were implemented to broaden the scope and enhance the utilization of expertise within these programs. Renovations of space and recruitment of personnel for the previously approved crystallography laboratory are proceeding in a timely fashion.

Contractor programs in support of several intramural and Contractor-initiated research efforts were expanded during the current reporting period. The installation of the supercomputer was completed in a newly renovated building, and the facility was made operational in support of the Laboratory of Mathematical Biology, Division of Cancer Biology and Diagnosis. On-site inspection of the facility by several advisory groups was carried out, including the National Cancer Advisory Board. Plans were initiated for installation of a communications network to allow use of the computer by off-site NCI and NIH programs.

A major expansion occurred in the FCRF support to the Division of Cancer Treatment's (DCT) lymphokine activated killer (LAK) cell project wherein interleukin-2 (IL-2) stimulated lymphocytes are being tested for therapeutic activity following re-infusion. The expansion involved both in vitro activities for treating cells with IL-2 and clinical activities for treating patients using the LAK cell technique at the BRMP clinic in the Frederick Memorial Hospital.

The DCT's in vitro cell screening program for identifying potential anti-cancer drugs was expanded in anticipation of the approved renovation of Buildings 431 and 432 for housing a large scale effort in this area. Plans also were implemented for initiating the Natural Products extraction program for identifying new drugs and biologics. This effort will serve as an adjunct to the in vitro screening program and will also be housed in Buildings 431 and 432.

The Operation and Technical Support Contractor continued its major effort in support of the Institute's AIDS program. A major new initiative during the current reporting period was the implementation of in-house research and subcontracts for developing and testing a potential AIDS vaccine using HTLV-III/LAV subviral components. Large scale production of HTLV-III/LAV for distribution to investigators was continued as were molecular studies in support of intramural research efforts. A large scale serum screening program for antibodies to HTLV-III/LAV was initiated in support of the Division of Cancer Etiology's Epidemiology Branch.

The area of NCI's HTLV-III vaccine development represents a current major national effort. Intramural and contractor scientists participate with extramural collaborators in this effort. The logic was to rapidly implement a safe, effective vaccine preparation which could prevent the initial infection by HIV. The most logical approach was to use a subunit vaccine prepared from the highly purified external glycoprotein of the HIV envelope gene. This glycoprotein proved to be immunogenic in laboratory animals and induced virus neutralizing antibody in all species tested. This glycoprotein has been used to vaccinate chimpanzees in anticipation of the establishment of protective immunity to homologous virus challenge. The most immunogenic presentation format for retro-viral glycoprotein complexes, Iscoms, do not readily incorporate the purified HIV external glycoprotein. Chemical modification of preferred Iscoms to incorporate the HIV glycoprotein may return these structures to prominence in the vaccine effort.

In the administrative area, plans were formulated for changes in NCI management due to the announced resignation from Government service of the incumbent General Manager. Upgrading of the facilities computer network to allow direct on-line access to budgetary and purchasing data is proceeding and should be finalized within the next two years.

Patents

A function of the Office of the Deputy Director is to be involved in the generation of inventions by intramural scientists, as well as the adjudication of the disposition of greater rights if inventions arose from federally-funded projects. The intramural decision process falls into two categories; the first of which is an evaluation of the invention status. This is usually generated as a request via OMAR. These requests are either considered directly or funneled to individual NCI experts for assessment. The patenting of inventions in the AIDS area has been highly successful. A current major occupation is represented by the disputes between the U.S. and the French Institut Pasteur in the Patent Office and other courts.

The second assessment involves the ruling whether the petitioner who is generally seeking exclusivity or greater rights should be so granted. In the past year, the greatest activity has been in the area of AIDS. Over a dozen intramural patents were applied for; the first two were issued already. These formed the basis for the AIDS blood antibody test now licensed to three commercial concerns. A new patent application area deals with lymphokine (IL-2) treatment of advanced cancers by using adoptive immunotherapy.

NCI Monoclonal Antibody Working Group

The mission of the working group is to integrate and facilitate the continuum of activities which begin at the bench and terminate in the treatment of the patient. The group, which is headed by the Deputy Director, represents a cross-divisional scientific activity of NCI and Clinical Center personnel. The skills of participants include topics such as: theoretical immunology, basic hybridoma technology, cytokine activity, anti-idiotypes, tumor cell-surface antigens, "arming" technology involving both radiometal chelates and toxins, growth factors and potential oncogene products, and clinical expertise in the diagnosis and treatment of tumors. The initial radiolabeled monoclonals were used for diagnostic localization purposes in a clinical setting.

OFFICE OF THE ASSISTANT DIRECTOR

OFFICE OF THE DIRECTOR

PROGRAM ACTIVITIES REPORT

October 1, 1985 through September 30, 1986

One major responsibility of the Assistant Director (AD) is serving as the Executive Secretary for the President's Cancer Panel. The President's Cancer Panel consists of Dr. Armand Hammer, Chairman, and two other members, Dr. William P. Longmire, Jr., and Dr. John A. Montgomery. Each Panel member has been reappointed by the White House for a second 3-year term. The Panel has affected the initiation of new programs and the implementation of existing priorities, and while conducting meetings throughout the country, has served as a forum for the scientific community and for the public.

The Panel held meetings this year in Los Angeles and in Memphis, focused on innovative therapeutic approaches to various forms of cancer, and highlighted specific expertise unique to the visited area.

The focus of the meeting in Los Angeles in January was clinical use of biological response modifiers for treatment of advanced cancers. Interleukin-2 (IL-2), other lymphokines, Tumor Necrosis Factor, and macrophage stimulating factors were discussed. The Panel was effective in highlighting the importance of the IL-2 studies in National Clinical Trials of the technique established by Dr. Steven A. Rosenberg at the NCI.

The meeting at St. Jude Children's Research Hospital in Memphis, Tennessee, concentrated on the molecular characterization of childhood cancers and innovative approaches to therapy resulting from these genetic studies. Chromosome abnormalities and oncogene patterns were demonstrated as indicative of classes of disease, and therapy could be planned accordingly. Patterns of response were shown to be predictable based on the molecular studies, and the Panel meeting served as an excellent synthesizer of this new treatment area.

In 1982, the President's Cancer Panel initiated a study of the Peer Review System, and the NIH grant mechanisms then available to established research investigators. The initiative undertaken by the Panel to establish a new grant mechanism for investigators with proven, productive careers, culminated in the establishment of the R-35, the NCI's Outstanding Investigator Grant. This past year, the first year of the active grant mechanism, 99 applications were reviewed and 23 awards were made based on successful mail-ballot peer reviews.

The AD is also responsible for the Office of Medical Applications of Cancer Research (OMACR), coordinating with the NIH Office of Medical Applications of Research (OMAR). In response to requests from the Health Care Financing Administration and the Office of Health Technology Assessment, HHS, extensive reports are prepared annually dealing with various medical technologies of concern to the nation. This past year the National Center for Health Services

Research published 17 Health Technology Assessment Reports, of which 5 involved NCI analyses of the current state-of-the-art.

As NCI representative to OMAR, the AD is a member of the Coordinating Committee on Assessment and Transfer of Technology (CCATT) for NIH. During FY 1986, OMACR processed numerous evaluations of patent applications from extramural and intramural scientists. OMAR also supports the consensus development programs at the NIH. This past year, the NCI sponsored 3 Consensus Development Conferences concerned with Adjuvant Chemotherapy for Breast Cancer, The Health Implications of Smokeless Tobacco Use, and The Integrated Approach to the Management of Pain.

The objective of each consensus development conference is to evaluate the issues concerning the current technology, and prepare a consensus statement useful as a guide for health care providers and the general public. The scientific presentations for the 1984 NCI conference on Limb-Sparing Treatment of Adult Soft Tissue Sarcomas and Osteosarcomas were published this year as Volume 3 of Cancer Treatment Symposia.

Another major responsibility of the AD is serving as the reviewing and recommending official for the NCI on requests submitted by the professional staff of the Institute for authorization to engage in outside activities. Ethical, practical and legal issues are evaluated on an individual basis.

Additional functions of the Office include signatory responsibilities for NCI contract negotiations; review of Confidential Statements of Employment and Financial Interests; and, as Deputy Ethics Counselor for NCI, the AD also affirms the absence of conflicts of interest by members of the staff after a review of activities and holdings reported by the employees. The DHHS Standards of Conduct, and other pertinent regulations, apply to staff, to members of NCI advisory groups, and to other non-federal affiliates. Adherence to these guidelines must be reviewed annually.

OFFICE OF INTERNATIONAL AFFAIRS
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE

Program Activities Report
October 1, 1985 - September 30, 1986

The National Cancer Institute (NCI) contributes to the international struggle against cancer by: (1) supporting cancer research in foreign countries by scientists who are highly qualified; (2) supporting cooperative research programs, principally through bilateral agreements with foreign government institutions or organizations; (3) maintenance of liaison with international organizations and agencies that have well-defined objectives in cancer research and cancer prevention; (4) support of training for foreign scientists in the United States, as well as of the interaction of American scientists with colleagues in foreign laboratories; and (5) management and operation of an International Cancer Information Center for promotion and facilitation of the exchange of information for cancer research, treatment, care and management of patients, and cancer control and/or prevention on a worldwide basis. These activities are managed and coordinated through the Office of International Affairs (OIA).

The NCI continues to contribute significantly to the improvement of the basic quality of life through its long tradition of involvement in the international efforts in cancer research. The interest of the NCI in the cancer problems of other nations, has contributed to the establishment of concerted international activities. The National Cancer Act has intensified the commitment of the NCI to the international team approach toward the control, prevention, and ultimate eradication of cancer. Through its participation in activities of the international cancer science community, the NCI benefits ultimately from the rapid advances in basic research throughout the world and their translation into application for the clinical management, control, and prevention of cancer. The ultimate gain from such collaborative cancer research efforts between the NCI and its international counterparts is a tangible improvement in the quality and quantity of health services to millions of people over the world.

The OIA consists of two major segments. Directly under the Associate Director for the OIA, the bilateral agreement programs are being managed. In parallel, the International Cancer Information Center was set up during the previous reporting period for coordination and management of information exchange on a worldwide basis.

Cooperative cancer research programs under formal government-to-government bilateral agreements comprise a major segment of the international activities. During the last reporting period, there were ten (10) bilateral agreements between NCI and: Soviet Union, Japan, Poland, France, Egypt, Federal Republic of Germany, People's Republic of China, Italy, Hungary, and Romania. International projects are also through Fogarty International Center agreements with: India, Spain, Taiwan, and Yugoslavia.

The activities under bilateral agreements span across a wide spectrum of projects in cancer treatment, tumor immunology, viral oncology, genetics, epidemiology, involvement of cancer centers in education and training of the lay public, etc. Emphasis has been placed on individual scientific exchanges.

The relationship with Japan is among the most productive and active. Cooperation with Poland, Egypt, Federal Republic of Germany, China, and Romania runs at a slow pace, mostly in one direction; few U.S. scientists are ready to leave their laboratories for any length of time to visit any country. The French National Institute of Health and Medical Research (INSERM) and NCI agreed to continue the existing program primarily in clinical studies. Bilateral activities with Italy are in the area of therapy and epidemiology and go far beyond official signing of the agreements. During the reporting period, projects in carcinogenesis were initiated under the aegis of this agreement.

Last year an innovative training fellowship was initiated in collaboration with the European Organization for Research and Treatment of Cancer (EORTC). NCI and European institutions coshare in funding stipends for mid-career scientists that wish to spend one to three (1-3) years in U.S. laboratories. During the first year, ten (10) candidates were approved under this program. Seven (7) additional candidates have been already selected for the next year. This is a valuable program that assures active exchange between European and U.S. centers. A similar program is under development with Japanese authorities.

In the past years, the OIA managed a number of activities on the international scene, supporting them by contractual mechanisms. Most of these projects were terminated during this reporting period and are continuing their operations in a phase out mode, without additional funds.

In cooperation with the International Union Against Cancer (UICC), the OIA provided partial support for the COMMITTEE FOR INTERNATIONAL COLLABORATIVE ACTIVITIES (CICA) within the framework of the UICC. An International Cancer Patient Data Exchange System (ICPDES) has been established as part of the CICA project with participation of scientists and clinicians from European and American cancer centers.

The CLEARINGHOUSE FOR ONGOING RESEARCH IN CANCER EPIDEMIOLOGY is a cooperative project with the International Agency for Research on Cancer (IARC) in Lyon, France, and the German Cancer Research Center in Heidelberg, Germany. The CLEARINGHOUSE, located in Lyon, collects, processes, and disseminates detailed data on research in cancer epidemiology and studies related to the cause of cancer in countries throughout the world. The CLEARINGHOUSE also prepares lists of epidemiology researchers and resources, responds to inquiries of a technical nature, and produces an annual Directory of Ongoing Research in Cancer Epidemiology. NCI support for this project was terminated, but it will continue, nevertheless, for two years on other funds.

The LATIN AMERICAN CANCER RESEARCH INFORMATION PROJECT (LACRIP) was developed through the ICRDB Program in collaboration with the Pan American Health Organization (PAHO) and its Regional Library of Medicine (BIREME) in Sao Paulo, Brazil. LACRIP served as the source for identifying and collecting research projects and active cancer therapy protocols in Latin America for inclusion in the CANCERLINE system. PAHO also served as the center for searching ICRDB databases and providing documents and data in response to requests for information from cancer researchers in Latin America. A cancer literature update service was provided quarterly to cancer researchers and clinicians in Latin America. This project is in a terminal phase out period.

The only international contract which continues full operation is the INTERNATIONAL SCIENTIST-TO-SCIENTIST COMMUNICATION through the UICC-administered International Cancer Research Technology Transfer Program (ICRETT). The goal of this program is the promotion of direct and rapid transfer of information about new or improved technology or methodology between two or more investigators, located in different countries and working on similar research projects. This interaction between such scientists is accomplished by the support of short-term visits for the purpose of conducting collaborative research projects over a brief interval of time, usually two to four weeks. Since the inception of the program in 1975 through March 1986, 843 ICRETT awards have been granted to scientists in 50 countries (Tables I & II).

BILATERAL AGREEMENTS

Cooperation with the Soviet Union

Since its inception in 1973, until late 1981, the American-Soviet collaborative cancer activities spanned a scientific spectrum which included cancer treatment, tumor immunology, viral oncology, the genetic aspects of neoplasia, epidemiology, cancer pathomorphology, cancer control measures and technologies, and the role of cancer centers in the education and training of personnel in health fields and the lay public. These broad approaches were modified and the objectives were restructured in September 1981. Thus, the scientific areas of cancer treatment, carcinogenesis, and cancer prevention now constitute the priority areas for continuing collaboration between American and Soviet cancer specialists. Annual meetings of delegations have been deemphasized in favor of individual scientific exchanges.

The Soviet coordinator visited NCI last October proposing a joint meeting to be held in Moscow in January 1986. NCI requested that specific topics and proposed speakers be submitted well in advance of the meeting. Because no such information was received from the Soviets until December, it was suggested by NCI, therefore, to postpone the meeting until June or July 1986, and to hold the meeting in Bethesda because of recent budgetary restraints. A tentative agenda and a list of speakers was prepared by NCI. No response has been received to this proposal from the Soviet counterparts.

During this year, ten Soviet scientists visited laboratories and clinics in the United States, whereas two U.S. scientists made exchange visits to the Soviet Union. The specific areas of research included surgical techniques for malignant melanoma, urological pathology, epidemiology of breast cancer, and synthesis of antitumor compounds.

Cooperation with Poland

The US-Poland bilateral agreement continues as an active program, which gives Polish scientists exposure to the newest methodologies and a chance to participate in the most current research. The visits, as a rule, are sufficiently long to allow development of collaborative ties lasting far beyond their actual stay in the U.S.

During this reporting period, four scientists from Poland spent time ranging from three months to a year in various U.S. laboratories, including one at the NIH. The collaboration topics covered development of new radiopharmaceuticals, radiotherapy, and pathology.

Table I: ICRET Awardees--Summary from 1976 through March 1986

<u>Origin of ICRET Awardees</u>				<u>Destination of ICRET Awardees</u>	
Argentina	24	Vanatu	1	Argentina	1
Australia	7	Venezuela	1	Australia	12
Austria	7	Yugoslavia	8	Austria	1
Belgium	17	Zambia	1	Belgium	10
Brazil	9	Zimbabwe	1	Brazil	1
Bulgaria	3		<u>843</u>	Canada	16
Canada	17			China (P.R.)	9
China (P.R.)	14			China (R.O.)	2
China (R.O.)	2			Colombia	1
Colombia	4			Denmark	8
Czechoslovakia	12			Finland	9
Denmark	1			France	63
Egypt	2			F.R. Germany	44
El Salvador	1			Hungary	2
Finland	9			Iceland	1
France	56			India	4
F.R. Germany	40			Israel	12
Greece	5			Italy	13
Hong Kong	1			Japan	32
Hungary	7			Malaysia	1
India	29			Mexico	1
Iran	3			Netherlands	16
Ireland	1			New Zealand	4
Israel	64			Norway	6
Italy	61			Peru	1
Japan	19			Poland	1
Kenya	2			Sweden	49
Liberia	2			Switzerland	35
Malaysia	3			United Kingdom	101
Mexico	4			U.S.	381
Netherlands	15			U.S.S.R.	3
New Zealand	3			Venezuela	2
Nigeria	10			Zambia	1
Norway	15				<u>843</u>
Peru	1				
Philippines	3				
Poland	20				
South Africa	3				
Spain	4				
Sri Lanka	3				
Sudan	1				
Sweden	33				
Switzerland	12				
Thailand	4				
Togo	1				
Turkey	1				
Uganda	1				
United Arab Emirates	1				
United Kingdom	94				
Uruguay	4				

Table II: International Cancer Research Technology Transfer (ICRETT)

Disciplines	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Total
a. Epidemiology, Statistics/Regist.	-	3	5	7	7	5	7	11	11	6	62
b. Biochem. Molec. Biol., Biophys.	5	14	14	11	11	7	11	9	9	6	97
c. Viral Carcinogenesis	7	13	10	9	11	6	10	10	6	6	88
d. Chemical Carcinogenesis	3	14	8	13	12	5	4	10	13	5	87
e. Cell Biology and Cell Genetics	1	15	11	8	19	14	7	10	5	6	96
f. Exper. Path. (Histopath., Cytol.)	4	5	12	14	10	3	8	7	6	1	70
g. Immunology	5	19	25	31	33	11	8	9	4	4	149
h. Experimental Chemotherapy	6	3	2	9	2	2	2	1	1	4	32
i. Surgery	-	1	2	-	4	-	1	1	2	-	11
j. Clinical Chemotherapy & Endocrin.	2	3	1	8	7	3	1	7	2	3	38
k. Radiobiology and Radiotherapy	5	4	7	10	9	7	10	5	1	1	59
l. Controlled Therapeutic Trials	1	-	1	4	-	-	2	1	-	-	9
m. Detection and Diagnosis	1	6	4	1	8	1	-	1	-	3	25
n. Behavioral and Social Sciences	-	-	1	-	4	1	3	1	2	-	12
o. Environmental Factors and Prev.	-	2	-	1	2	-	1	1	1	-	8
	40	102	103	126	139	65	75	84	64	45	843

Overall, the success of this program may be judged from the fact that Polish counterparts are exploring the possibility of expanding the agreement to a higher level of man-months.

During this reporting period, the Polish coordinator, Professor Tadeusz Koszarowski, retired and a new coordinator, Dr. Jan Steffen, was appointed.

The umbrella agreement between the Polish Ministry of Health and the Department of Health and Human Services is up for renewal. Once this occurs, NCI and the Institute of Oncology will renew their Memorandum of Understanding.

Cooperation with Egypt

The U.S. Agency for International Development has entered into the Participating Science Agreement (PASA) with the Office of International Health (OIH). The PHS provides supporting funds for the US-Egypt Joint Working Group on Health Cooperation. A clinical and epidemiology study of non-Hodgkin's lymphoma and leukemia in Egypt is one of the projects supported under the new agreement. OIA provides the administrative assistance for this cooperative activities of DCT and DCBD, NCI.

Cooperation with the Federal Republic of Germany

This bilateral agreement produced no active collaboration during the performing period. Both sides continue to explore various methods for revitalizing the program in the areas of therapy and environmental carcinogenesis. Dialogue between the U.S. coordinator and leading German scientists concerning the proposed cooperation has continued on an informal basis during both national and international meetings. Initially, the German committee had presented a broad proposal in cancer research and research training that represented the coordinated national program effort by the Deutsche Forschungsgemeinschaft and the Federal Ministry for Research and Technology. Subsequent discussions have served to refine this proposal in terms of specific research areas of current and mutual interest for collaborative exchanges. At the invitation of the Federal Ministry for Research and Technology, the Acting Associate Director, OIA, and the Associate Director for the Cancer Therapy Evaluation Program, DCT, participated in a planning session of the Senate Commission of the Deutsche Forschungsgemeinschaft in Munich to explore possible collaborative projects.

A workshop on "Mechanisms of Initiation" will be held in October in Heidelberg under the auspices of the US-German bilateral agreement.

The close contacts kept with the resident German representative, Dr. Hans Brieskorn, indicated a resurgence of interest on both sides of the agreement, especially in the therapy programs.

Cooperation with Romania

After an initiation in late 1983, the program got off to a slow start in the area of biological response modifiers and immunology. The coordinators exchanged visits and some surplus equipment was sent to the Victor Babes Institute in Bucharest. The departure of the U.S. coordinator from the NCI puts this budding program into the category of uncertain future. There was only one exchange visit by a Romanian scientist during the reporting period.

Cooperation with Hungary

The US-Hungary Program continues to be one of the most active and productive of the NCI agreements with the Eastern Bloc nations. Because of collateral duties associated with hosting the International Cancer Congress at Budapest in August 1986, fewer Hungarian scientists participated in exchange visits during this period than in previous years. Three Hungarian scientists visited laboratories in the U.S. and four U.S. scientists visited clinics and laboratories in Hungary. Collaborative research for both U.S. and Hungarian scientists covered areas such as: 1) oncogenic transformation; 2) screening programs for cancer of breast and cervix; 3) effects of interferon and lymphokines on metastasis; and 4) populations at risk for acquired immune deficiency syndrome (AIDS).

Cooperation with China (Mainland)

To develop international cooperation of cancer research and treatment, the NCI and the PRC undertook the following measures: The Chinese Academy of Medical Sciences sent five (5) medical teams for a conference on the current development on the epidemiological studies on cancer of the lung, stomach, and esophagus, and choriocarcinoma which are particularly common in certain areas of mainland China. Problems of diet, lifestyle, and environmental factors were discussed in relation with the high incidence of these cancers. Renewal and strengthening of the current US-PRC Cooperative Cancer Research Program was discussed between the Chinese delegates and OIA staff.

The NCI hosted a number of Chinese scientists who visited for information exchange, training, and collaborative studies with NCI scientists. The Chinese scientists visited the Laboratory of Human Carcinogenesis, NCI, as part of their collaboration in ongoing studies of human hepatitis and esophageal cancer. An NCI scientist visited China on the same subject.

Under support from the US-PRC bilateral agreement, a collaborative pilot study on the effect of long term exposure to a low-level radiation, which occurred in certain villages in Guangdong Province, was carried out. Increase in the risk of thyroid neoplasms, or thyroid autoimmunity was studied. Chinese physicians specifically trained for this project in the U.S. prior to the pilot study examined 1,900 Chinese women from high background areas and 2,800 control area women. The pilot study was designed to work out a number of technical problems such as transportation of a large number of Chinese women to a central area for examination; test the practicality of the examination procedures; to become acquainted with the examination and data recording procedures; and to plan modifications to make the procedures more suitable for the present investigation. A full-scale study will be initiated in November 1986.

U.S. scientist's interests lies largely on the characteristic feature of the Chinese population whose living conditions, traditional behavior, natural and artificial environment, and ethnic background are different from that of the Western countries. The informational cooperation in the oncology area has been highly relevant for the needs of both countries and is becoming an extremely important issue.

NIH hosted 95 Chinese scientists (24 to the NCI) as visiting fellows or guest researchers which is a marked increase from past years, reflecting a significantly liberalized science-technology exchange program with mainland China.

Cooperation with Italy

The bilateral agreement with Italy covers two broad areas: cancer prevention and cancer therapy. During this reporting period, this program was organized on the model of the Japanese program for easier management. As the overall resources began to shrink, it was necessary to develop tools for priority setting on both sides, as well as for fiscal administration.

This is a very active program with 12 Italian scientists participating in collaborative studies in various U.S. institutes, spending on the average three months on active projects. One very successful meeting, US-Italy Scientific Workshop on Oncogenes, Monoclonal Antibodies, and Hodgkin's Disease Treatment Strategies, was organized under the aegis of this program and held in Bethesda, Maryland.

Presently, two workshops are in the planning stages for next year:

1) Transplacental Carcinogenic Risks to Humans, organized by Drs. J. Rice and L. Rossi; and 2) International Workshop on Acute Lymphoblastic Leukemia, organized by Drs. D. Poplack and S. Marsoni. In both cases, the underlying principle is to bring the clinicians and the lab scientists together to develop new approaches and new projects.

Cooperation with France

The NCI-INSERM Committee on Cancer Research has the responsibility to support high-quality research relating to understanding the process of carcinogenesis and various therapeutic studies. Proposals submitted by candidates from each country are reviewed for scientific merit by both American and French committees. As a possible result of converting two program areas (Basic Cancer Research and Clinical Cancer Research) to one central management, a shift toward clinical orientation took place. The program was very active with practically a waiting list of candidates willing to come to the United States.

Nine Americans visited France, and twelve French scientists spent varying time periods in U.S. laboratories.

A specially noteworthy trip was that of six American scientists (two physicists, one computer specialist, one diagnostic radiologist and two therapists) who visited the Thompson GR Medical Corp. in Paris to inspect and evaluate an O.S. Tesla NMR unit for possible use by the Radiation Oncology Branch, DCT, NCI.

A meeting on AIDS research and progress was held in Paris, March 13-14, at which clinical treatment data were presented. NCI was represented by five scientists.

Cooperation with Japan

The most active and the largest bilateral program is with Japan sponsored by the NCI and the Japan Society for the Promotion of Science (JSPS). Both sides have a Steering Committee which meets jointly once a year, alternately in Japan and the U.S., to review the program's progress and to plan the new program. There are four Program Areas: Etiology (coordinators, Dr. R. Adamson and Dr. T. Sugimura); Biology and Diagnosis (coordinators, Dr. R. Hodes and Dr. Y. Yamamura); Cancer Treatment (coordinators, Dr. M. Friedman and Dr. Ogawa); and Interdisciplinary (coordinators, Dr. R. Miller and Dr. H. Sugano).

During the reporting period, the following seminars/workshops were held under the aegis of this bilateral agreement:

Etiology Program Area:

A seminar on "Oncogenes and Experimental Carcinogenesis" was organized by Drs. M. Terada and S. Aaronson and held March 12-14 in Hawaii. The purpose of the seminar was to discuss and exchange information on the molecular mechanisms underlying the development of cancer and the role of oncogenes in carcinogenesis. It was utilized to prepare future cooperation between scientists of the U.S. and Japan.

A seminar on "Oxygen Radicals in Cancer" was organized by Drs. B. Ames and S. Nishimura and held on March 26-29 in Hawaii. Topics that have generated considerable interest involve the important role of oxygen radicals that may cause DNA damages leading to cancer in humans. The direction of research in oxygen radicals in cancer in the U.S. and Japan is traditionally different, so that learning about new concepts, systems, and technology was highly beneficial for both countries. However, the most important question remains to be answered: How oxygen radicals are involved in causing human cancer. With accumulation of more data in the future, a better overview in cancer mechanisms will be obtained.

A symposium on "Causative and Modifying Factors in Digestive Tract Cancer" was organized by Drs. S. Sato and G. G. Williams. It was held March 12-14 in Tokyo. The purpose of the conference was to exchange recent research findings on etiologic factors in digestive tract cancer and to make an appraisal of strength of evidence for involvement of suspect factors.

Five scientists came to the U.S. from Japan as Exchange Scientists. Dr. M. Yutsudo visited NCI sponsored by Dr. P. M. Howley and studied the transforming genes of bovine papilloma virus. He also visited Georgetown University (Dr. Lancaster), Johns Hopkins University (Drs. Shah and Sawada), and Harvard University (Dr. Maniatis). Dr. S. Nakamura visited FCRF (Dr. Vande Woude), Princeton University (Dr. Gilboa), and the DNAX Research Institute (Dr. K. Arai) for the study of ras oncogene related carcinogenesis. Dr. T. Hori visited the University of Michigan (Dr. T. Glouer and Dr. White) and Harvard University (Dr. Latt) for the study of chromosomal fragile sites related to cancer causation. Dr. Y. Kurokawa visited the University of Texas (Dr. Slaga), Northeastern University (Dr. Reddy), and New York University (Drs. W. Troll and H. Demopoulos) to study the carcinogenic role of active oxygen radicals and the effects of antioxidants. Dr. K. Negishi visited the University of Alabama at Birmingham (Dr. R. Wells) to study the z-form DNA and cancer. Interaction of chemical carcinogen with different forms of DNA was investigated.

Biology and Diagnosis Program Area:

From April 1, 1985 to March 31, 1986, the major activities of this Program Area consisted of the organization of three seminars and the exchange of five scientists between the U.S. and Japan.

A seminar on "Analysis of Host Immune Responses Involved in Antitumor Immune Resistance." This seminar was organized by Drs. R. Hodes and T. Hamaoka and held in Kyoto, Japan, on November 11-13, 1986. Three major topics discussed

were: receptors and oncogenes; biology of host-tumor interaction; and the regulation of tumor cell growth by natural killer (NK) cells.

The seminar on "Regulation of Expression and Functions of Transformation-Related Genes" was held February 17-19, 1986, in Hawaii. The seminar was organized by Drs. S. Oroszlan and Y. Ikawa. The following five scientific sessions were held: 1) src and other oncogenes coding for tryosine kinase; 2) abl and other oncogenes; 3) genes for growth factors and their receptors; 4) G-proteins and ras gene products; and 5) X-genes of BLV/NTLV-I family-expression and function.

A meeting on the "Lymphoid Markers and their Genes" was held January 31-February 3, 1986, in Sapporo, Japan. The meeting was organized by Drs. F. Alt and T. Kishimoto. The meeting was divided into five major sessions. The first of these dealt with the T-cell receptor and accessory molecules. The second subject dealt with the characterization of the expression of the IL-2 receptor genes. B-lymphocyte surface markers and B-cell stimulatory factors including BSF-1 was the third topic. The fourth major topic discussed in the meeting was B-lymphocyte differentiation. The control of gene expression and gene rearrangement during lymphocyte differentiation was discussed. The last topic was oncogenes and malignancy. The relationship between abl oncogene and murine and human leukemia was covered.

During the past year, four Japanese scientists visited laboratories in the United States. Dr. T. Watanabe visited Oklahoma Medical Research Foundation where he was hosted by Dr. P. W. Kincade. He studied immunoglobulin gene expression using long-term bone marrow culture. He also studied the mechanisms involved in cell-specific and differentiation stage-specific gene expression of immunoglobulin and T-cell receptor genes.

Dr. T. Hamaoka visited the University of Pennsylvania School of Medicine and the NCI to meet Dr. M. I. Green and Dr. R. Hodes. They exchanged the scientific information regarding the neu oncogene product and its monoclonal antibody; regulation of B-cell differentiation; IL-1, IL-2, transferrin, and insulin receptor gene expression; cell-cell interaction at the stage of the antibody recognition and molecular biology of Ia-gene, etc.

Dr. T. Todokoro visited the DNAX Research Institute of Molecular and Cellular Biology to meet Dr. K. Arai. They initiated a collaborative study on gene cloning of growth factors (EPO and BPA) and their receptors.

Dr. T. Nishimura is in the Dana-Farber Cancer Institute hosted by Dr. S. Burakoff. His stay is for one year and began March 1, 1986.

From the U.S., Dr. W. F. Benedict visited the Institutes of Physical and Chemical Research hosted by Dr. Y. Ikawa. They exchanged information on the retinoblastoma gene in laboratories throughout Japan. Several new collaborations have been set up between other individuals in Japan as the result of the visit.

Cancer Treatment Program Area:

Three seminars were organized by Drs. M. Friedman and M. Ogawa. The first, "Combined Modality of Chemotherapy and Radiotherapy" was held October 10-11, 1985, in Tokyo. Comprehensive discussions on combined modality treatment with chemotherapy and radiotherapy were focused on both disease-site oriented

issues and new modality applications. Selected tumor sites where radiation and chemotherapy had a collaborative role were discussed. Data based on Platinum-based chemotherapy combined with radiation in the head and neck cancer, breast cancer, small cell and non-small cell lung cancer, gastrointestinal cancer, genitourinary, and gynecologic tumors were presented by participants of both countries.

A seminar on "Clinical Trial Methodology" was held in Hawaii on January 30-31, 1986. This was the first such meeting in which issues relating to statistical and regulatory aspects of new therapy development were discussed in detail. Representatives from government agencies, cancer centers, and private industry took part in a wide ranging evaluation of Phase I, II, and III therapeutic testing. Specific attention was given to the new guidelines recently drawn up by Japanese investigators for testing new agents in Phase I and disease oriented Phase II situations. Contrasts were drawn between methods used in Japan and those in the U.S. for the evaluation of new products.

Statistical methodology with the clinical relevance was discussed with specific attention to means for improving the efficiency of prospective randomized trials in advanced tumors, more carefully monitoring the effects and outcome of treatment, and a new computer method for interim analysis to permit a more effective opening and closing of Phase II and Phase III trials.

The seminar on "New Drug Development and Regional Chemotherapy" was held on March 24-25, 1986 at the NCI, Bethesda, MD. The meeting is a regular feature of the US-Japan Cooperative Agreement to discuss selected topics in drug development and regional approach to chemotherapy. A variety of new compounds were discussed including anthracycline analogues (THP-adriamycin and Memogoril); family of platinum analogues, 254-S, CBDCA, and CHIP; fluorouracil derivatives; an oral form of cytosine arabinoside and a novel anti-fol, trimetrexate, and deoxycoformycin (presumed adenosine deaminase inhibitor effective in treating B- and T-cell lymphomatous diseases including hairy-cell leukemia).

During the past year, four Japanese scientists visited laboratories in the U.S. Dr. H. Koyama visited the University of Texas Health Science Center and several other institutions in the U.S. hosted by Dr. W. L. McGuire and others. He studied the current status of chemo-endocrine therapy which attracted much attention in the treatment of breast cancer.

Dr. T. Kitagawa visited several laboratories including the Massachusetts General Hospital where Dr. H. Suit hosted him as an Exchange Scientist. He exchanged information regarding the proton beam irradiations, fast neutron and heavy ion beam therapy for clinical treatment.

Dr. T. Tsuruo completed his one-year visit to the NCI hosted by Dr. R. F. Ozols. He studied biochemical changes of drug-resistant human ovarian tumor cells, potentiation of vincristine and adriamycin cytotoxicity by calcium channel blockers in human ovarian tumor cells, collateral susceptibility of drug-resistant cells to bleomycine, and separation of Adriamycin and vincristine-resistant phenotypes and the corresponding genes by cell fusion.

Dr. K. Inour is now at the NCI as an Exchange Scientist for one year which began on October 8, 1985.

Interdisciplinary Program Area:

The Interdisciplinary Program area convened a workshop on "Cancer Epidemiology in Southeast Asia," which was held in Honolulu on December 12-13, 1985. The purpose was to learn about the studies being made in Southeast Asia under the Nakasone Cancer Program, and to consider additional possibilities for other studies. The meeting was co-organized by Dr. Kunio Aoki of Nagoya University and Dr. Robert W. Miller of NCI. It was attended by seven scientists from each country with interests in cancer epidemiology, pathology, cytogenetics, somatic cell genetics, nutrition, and virology. The workshop revealed that there are many opportunities for research into cancer etiology in Southeast Asia because of the differences in cancer occurrence and high-risk groups in Japan as compared with other countries in the area.

The workshop on "Recent Advances in Bladder Cancer Research" was co-organized by Dr. Samuel M. Cohen of the University of Nebraska and Dr. Nobuyuki Ito of Nagoya City University, in Nagoya, March 24-25, 1986. It was summarized that "progress in the clinical management of human bladder cancer requires a multidisciplinary approach as evidenced by the various presentations at this meeting. In particular, new developments with monoclonal antibodies, urinary modifying factors, carcinogen exposure, and oncogenes, particularly the interaction of multiple factors, would be important in the diagnosis and treatment of the disease."

During the past year, four scientists were exchanged. Dr. K. Namba visited the Kukini Medical Center, Honolulu (Dr. E. Yanagihara, host) and University of Southern California (Dr. B. N. Nathwani, host). Genopathological study in the state of Hawaii indicated that malignant lymphomas among Japanese-Americans in Hawaii resemble those of U.S. Caucasians with respect to relative increase of B-cell lymphomas including follicular lymphomas and the relative increase of normal lymphomas. Japanese-Americans still keep the feature of Japanese lymphomas with respect to the low incidence of Hodgkin's disease. The interesting findings need to be studied further.

Dr. A. Hanai visited the NCI hosted by Dr. J. L. Young, Jr., to study the system and activities of the Surveillance Epidemiology and End Results Program (SEER) and to study factors concerning the difference in stomach cancer survival among Whites and Japanese in the U.S. and Japanese in Japan. She also attended the annual meeting of the International Association of Cancer Registries and the 1985 annual meeting of the SEER Program.

Dr. M. Seiki visited the DNAX Research Institute of Molecular and Cellular Biology hosted by Dr. K. Arai. He studied recombinant plasmid having a pX gene derived from HTLV-I. The biological activities of the pX gene were studied by DNA transfection, infection into mouse T-cell clones and rescue operation using helper virus-producing cell lines.

Dr. C. E. Roger visited the Cancer Institute in Tokyo hosted by Dr. O. Hino. Lectures and information exchange were focused on the cellular and molecular aspects of chronic hepatitis infection and hepatocarcinoma.

In addition to formal agreements, collaborative programs were also set up through the Fogarty International Center.

Cooperation with India

Indian scientists are exploring various methods for collaborative programs in basic research and treatment of cancer. The Department of State has made an initial allocation of funding for FY 86 under the US-India Fund for Cultural, Educational, and Scientific Cooperation (USIF). The Indian Society of Oncology (ISO) and Technology Transfer Program and a number of international organizations support cooperation between the U.S. and India. However, actual scientific activities are very limited. A few U.S. scientists attended the 2nd Biennial Conference of the ISO in Bombay.

Cooperation with Taiwan

Collaborative studies with the scientists of Taiwan became markedly active despite the fact that NCI has no formal bilateral agreement on cancer research. Because of the endemic characteristics of hepatitis B, nasopharyngeal carcinoma, and more recently with HTLV-I, NCI scientists expressed particular interest in studying these diseases in relation with viruses as the direct causative agents of human cancers.

The first conference on the Seroepidemiological Study of HTLV-I was held in Taiwan followed by extensive HTLV-I antibody testing using the ELISA assay. Several cancer-related projects are scheduled to be initiated in collaboration between Taiwanese and NCI scientists in the near future.

OTHER NCI INTERNATIONAL PROGRAMS

The NCI Visiting Program

During the reporting period, the National Cancer Institute received scientists from 46 countries who came to the United States to engage in collaborative cancer research activities. There was a total of 408 foreign visiting scientists, associates, and fellows. Sixteen scientists were appointed as Experts and 162 came as Guest Researchers, whose financial support was provided by sources other than the NCI. The activities of these visiting scientists were pursued in the laboratories of cancer treatment, cancer etiology, and cancer biology and diagnosis. These associations have been mutually beneficial. The NCI host scientists were afforded opportunities to learn from the visitors about cancer problems in a given foreign country; about factors peculiar to that nation that might be related to the morbidity and mortality of cancer; and about activities under way toward the management, treatment, and prevention of cancer. Reciprocally, the foreign visitors were provided with unique opportunities to improve their mastery of the scientific method or to develop their potential for scientific contributions to laboratory and clinical research. The value and benefit of such scientific interaction can be assessed, ultimately, on the knowledge that cancer patients throughout the world are benefiting from improved quality of care.

NCI-Sponsored Research in Foreign Countries

During 1985, the Divisions of Cancer Treatment, Cancer Etiology, Cancer Biology and Diagnosis, and Cancer Prevention and Control maintained extensions

of their programmatic objectives in foreign countries through 21 research contracts and 32 grants (Table III) totalling \$6,103,467. Seventeen grants were active without funds and two projects were funded by PL 480.

Institutions in 16 nations currently are the recipients of NCI grants and contracts. Thus, the outreach of NCI support extends to Australia, Belgium, Canada, China (Mainland), Denmark, Finland, France, Israel, Italy, Jamaica, Japan, Panama, Sweden, Switzerland, Tanzania, and the United Kingdom.

Division of Cancer Biology and Diagnosis (DCBD)

Although most of the international activities of DCBD involve support of investigator-initiated research grants, two research resource contracts for the maintenance and distribution of cultured cell lines provide reagents to foreign as well as domestic laboratories. In addition, partial support was given in FY 86 to six conference grants for scientific meetings held in foreign countries.

The Immunology Program supports research that contributes to an understanding of the role of the immune system in the development, growth and spread of tumors. Areas currently being studied by foreign grantees include:

- ° The immunobiology of mononuclear phagocytes in ovarian carcinoma, utilizing a cytokine produced by tumor cells which is chemotactic for monocytes.
- ° Studies on the control of the metastatic phenotype of tumor cells by genes coding for class I antigens of MHC and by oncogenes.

The Cancer Diagnosis Program supports research designed to improve ability to identify populations at high risk to cancer, to detect the disease at earlier stages to make more accurate diagnosis, to stage tumors more precisely for prognostic and therapeutic decisions, and to monitor more effectively the changes during and following therapy. Studies supported in foreign laboratories include:

- ° Evaluation of whether CEA-promoted second-look surgery following colorectal cancer resection produces a reduction in morbidity and mortality caused by otherwise unnoticed tumor recurrence.
- ° Development of an internationally acceptable classification of the anatomical extent of cancer.
- ° Molecular studies of porphyrin reactivity and the relationship to cancer therapy.

The Tumor Biology Program supports a broad spectrum of basic biological research to determine what cellular and molecular factors distinguish cancer cells from normal healthy cells and tissues. It supports the largest component of foreign grantees in DCBD and their studies include:

- ° Analysis of the effects of inserting various versions of the myc gene into transgenic mice.

Table III: NCI Grants and Contracts to Foreign Countries
(Outside OIA)

Country	# Grants	\$	# Contracts	\$	Total
Australia	1	67,444	--	--	67,444
Belgium	--	--	1	208,645	208,645
Canada	11	830,289	--	--	830,289
China	--	--	5	1,224,174	1,224,174
Denmark	--	--	2	107,087	107,087
Finland	2	96,246	1	409,000	505,246
France	3	235,294	--	--	235,294
Israel	2	137,225	3	149,221	286,446
Italy	1	10,000	--	--	10,000
Jamaica	--	--	1	695,291	695,291
Japan	--	--	1	9,500	9,500
Panama	1	156,858	1	200,000	356,858
Sweden	5	226,371	2	161,421	387,792
Switzerland	--	--	1	152,903	152,903
Tanzania	--	--	1	101,665	101,665
U.K.	4	184,627	1	263,733	448,360
International	2	476,473	--	--	476,473
	32	2,420,827	20	3,682,640	6,103,467
India (PL 480)	2				
No Funds Grants	17				
No Funds Contract	1				

- ° Control of the expression of colony stimulating factor (CSF) at the genetic level, the distribution of CSF message in different tissues, and the range of biological properties of molecularly cloned and expressed CSF's.
- ° Investigation of mechanism of action of epidermal growth factor and its membrane receptor in normal growth and neoplasia.
- ° Investigation of the mechanism whereby low pH and hypoxia interact to cause cell death.
- ° Systematic analysis of the in vitro growth patterns of human leukemic cells.
- ° Isolation and characterization of heritable and phenotypically stable mutant cell lines from human melanoma which readily metastasize in nude mice and which duplicate their usual clinical behavior.

Division of Cancer Treatment (DCT)

In addition to foreign grants and contracts, this division maintains several international agreements which are designed to support our acquisition and information exchange efforts in drug development:

1. Commercial discreet agreements with firms in Europe, England, and Japan to acquire compounds for screening. European acquisitions are centrally coordinated through the Institut Jules Bordet in Brussels, Belgium.
2. Contract QM3-6011 with the Japanese Foundation for Cancer Research for information services in support of cancer treatment research. This work is divided into several categories primarily related to information activities and the coordination of US-Japan cooperative activities.
3. SCFP research agreement 01-153-N, Development of Therapeutics Agents Against Cancer, with the Central Drug Research Institute in Lucknow, India, under the PL-480 program. Under this agreement synthetic compounds and plant extracts are received from India for screening.

More than 50 percent of all the new materials acquired by DCT originate with foreign sources, and there are hundreds of contacts with scientists overseas who send samples for evaluation. For those compounds selected for preclinical development, negotiations are conducted with the companies involved regarding how production and development costs are to be shared, and the details are decided on a case-by-case basis. Some companies and institutions with whom there are major current or recent collaborations include Takara Shuzo Co., Takeda Chemical Industries, Meiji Seika Kaisha Co., Fujisawa Pharmaceutical Co., Institute of Microbial Chemistry, Nippon Kayaku Co. (all of Japan), Imperial Chemical Industries (U.K.), Leo Pharmaceutical Co. (Denmark), and Gruppo Leptit S.A. (Italy).

Division of Cancer Prevention and Control (DCPC)

The DCPC conducts a broad array of research and application activities with major emphasis on the evaluation of methods to prevent cancer, or screen and detect it in its early and most treatable stages. Cancer prevention and control activities are conducted both in the U.S. and abroad and include liaison development with international scientists, participation in international meetings, and the support of contracts and grants in more than a dozen foreign countries.

Discussions with scientists in Sweden were continued on a possible population-wide nutrition intervention program to reduce cancer incidence and mortality in the Stockholm area. Four NCI scientists, two members of the DCPC Board of Scientific Counselors, and one extramural consultant, visited Stockholm to provide technical advice on evaluation of the intervention project, and to assess the feasibility for collaborative research. Two additional visits by Swedish investigators to NCI also occurred. Further discussions on this project are expected to continue.

In March-April 1986, an NCI staff member participated in a survey of health care in Saudi Arabia at the request of the United States-Saudi Arabian Joint Commission on Economic Cooperation (U.S. Department of Treasury). This survey reviewed current health care delivery systems and assisted the Saudi Arabian Ministry of Health in developing policy for providing cost effective health care.

Considerable international interest has been shown in developing public and patient information programs modeled on the 10-year experience of NCI's Cancer Information Service (CIS). The NCI Project Officer for CIS traveled to England and Northern Ireland to consult on the development of such programs in those countries. In addition, NCI has been contacted by organizations in the Netherlands, Germany, Canada, and Ireland regarding starting such a program.

An NCI epidemiologist participated in a survey of childhood health status among refugees from Afghanistan for the second year in a row. This study is under the auspices of the Center for Disease Control and NCI participation was at their request.

Dr. Marcello Tamburini was a guest worker during the month of June 1986. The DCPC is organizing future collaborative research with Italy to focus on pain management, quality of life, and patterns of care studies.

Division of Cancer Etiology (DCE)

The Division of Cancer Etiology (DCE) participates in several of the major international agreements for cooperation in cancer research: US-People's Republic of China; US-Germany; US-Italy; US-Japan; and US-USSR. Collaborative efforts include studies in cancer epidemiology and chemical, physical, and biological carcinogenesis with emphasis on factors related to the etiology and prevention of cancer. Basic and applied research also is conducted in foreign institutions under grants, contracts and cooperative agreements administered through the Division's extramural programs.

Cancer epidemiology has been given the highest priority under the US-China program, but cooperation extends to areas of molecular biology and other disciplines in cancer etiology. Collaborative epidemiologic studies to identify the environmental determinants of esophagus, lung, and stomach cancers and choriocarcinoma drew near completion this year in four areas of China at high risk for these malignancies. In addition, a new collaborative investigation was launched in Shenyang to evaluate air pollution from industrial sources and home heating as a risk factor for lung cancer. The studies are supported in part by contracts from the DCE, and were initiated after pilot studies demonstrated their feasibility. A vitamin intervention trial also was initiated in an area of north-central China where rates from esophageal cancer are the highest in the world and where there are chronic deficiencies of several micronutrients. Collaborative laboratory research continued during the year. Progress was made on establishing cell culture conditions for human liver and esophagus, studying the metabolism of chemical carcinogens, assessing biochemical and immunochemical markers in persons at high risk of liver, esophagus, stomach, and lung cancers, and investigating in vitro transformation of human epithelial cells by microbial and chemical agents.

Substantial progress has been made during the past year in reactivating the US-Germany program. A bilateral workshop entitled "The Role of DNA Amplification in Tumor Initiation and Promotion" will convene in Heidelberg in October 1986. It is anticipated that this workshop will form the basis for active scientific collaborations between German and American workers in this rapidly developing area of research. In addition, a number of research areas for collaborative projects have been developed for presentation at the next meeting of the Senate Commission for Cancer Research of the DFG.

The US-Italy program involves a variety of activities related to cancer etiology, with recent emphasis on epidemiology. This year, a collaborative case-control study of gastric cancer, the leading cause of cancer death in parts of northern and central Italy, was begun. Stimulated by workshops organized under the Agreement, the multi-center stomach cancer investigation involves high- and low-risk areas of Italy and will be funded in part by a contract from the DCE with the Center for Study and Prevention of Cancer in Florence. During the past year, the Division has been developing a new initiative in the area of perinatal carcinogenesis. A joint US-Italy workshop entitled "Transplacental Etiology of Human Neoplasms" is in the planning stage and will be convened in Genoa in November 1986. The purpose of the workshop is to bring together epidemiologists and experimentalists who are interested in the etiology of pediatric neoplasms and other forms of human cancer, and who have an interest in human transplacental exposures to environmental carcinogenic agents. It is anticipated that this workshop will serve as a stimulus for future collaborative research between American and Italian scientists.

Attempts continued to redefine and restructure the American-Soviet Cooperative Program in Carcinogenesis. Since this represents a new field of scientific endeavor in the US-USSR Cooperative Cancer Program, it is essential to obtain from the USSR as much information as possible on the ongoing work in research areas that were identified as being potentially beneficial to both nations. These include: (1) modifying effects of chemicals on gene expression of normal and neoplastic cells; (2) role of tumor promoters in biological, chemical, and physical carcinogenesis; (3) genetic analysis of malignancy by

means of somatic cell hybridization; (4) chemical induction of tumors in specific target organs; (5) gene regulation and gene amplification relating to viral and chemical carcinogenesis; (6) the role of viral-related transforming (onc, sarc) genes in the genesis of spontaneous and induced tumors of animals and man; (7) development and exchange of monoclonal antibodies (hybridomas) directed against different antigens in biologically and chemically induced tumors; (8) studies on the development of cancers resulting from transplacental and perinatal exposures to biological and chemical carcinogens; (9) chemical/viral cocarcinogenesis studies in primates; (10) genetic disorders with predisposition to malignancy; (11) mutagenic action of anticancer drugs; (12) clinical aspects of somatic cell genetics; and (13) studies on new candidate oncogenic virus isolates from primates, including man.

INTERNATIONAL CANCER INFORMATION CENTER

OFFICE OF THE DIRECTOR

The International Cancer Information Center (ICIC) was established in 1984 to more effectively and efficiently organize and manage the collection, processing, and dissemination of basic and clinical research information on an international level. The ICIC consists of the Office of the Director (OD), Publications Branch (PB), International Cancer Research Data Bank (ICRDB) Branch, and the Computer Communications Branch (CCB).

Overall, the ICIC serves as the NCI focal point for the collection and dissemination of scientific data on all research related to cancer biology, etiology, prevention, and treatment. The responsibility for collecting, cataloging, storing, and disseminating the results of clinical and preclinical cancer research to any and all persons involved in cancer research in any country resides in this office. The goals of the OIA/ICIC are to actively promote the exchange of information between cancer researchers using available technology and to develop and promote more effective ways of disseminating information among cancer researchers and practicing physicians throughout the world.

Specifically, the OD, ICIC, plans, directs, coordinates, and evaluates the activities and operations of all of the NCI's scientific journals, its monographs, the specialized publications of the ICRDB, and online computerized databases that constitute the Institute's centralized information services. These services are targeted toward meeting the informational needs of basic scientists and clinical investigators for rapid transmission of up-to-date information about current advances in cancer research.

The Director of the ICIC oversees the activities and operations of three editorial boards; supervises and coordinates the identification, development, and execution of improved methods for searching the scientific literature, and disseminating scientific data. The Director is responsible for the development of new methods and techniques to improve the integration of the Institute's information gathering and dissemination functions. The Director also represents the OIA on NIH committees involved in the development and administration of information systems, policies, and procedures. The OD monitors the overlapping responsibilities of the three branches to assure effective integration of responsibilities and activities. The Director develops and evaluates policies and procedures affecting ICIC branches and monitors the interchange of materials and reports among branches within ICIC, with OIA, and with other NCI or NIH operating units.

The OD has responsibility for the management of the Technical Support Services Contract which heretofore was housed in the ICRDB. The scope of activities supported by this contract warrants its more logical placement in the OD. Evaluation, efficiency, and management studies are supervised through the OD, and program-wide objectives and resource requirements are developed and implemented through this office as well.

Physician Data Query (PDQ):

A major responsibility of the OD is the ongoing supervision of all aspects of the PDQ database. The PDQ database consists of three component files (cancer information, clinical research protocols, and a directory of physicians and organizations), linked together for user-friendly retrieval through common data elements. The information contained in the PDQ database can be accessed from a central computer by microprocessors. The system, which is updated monthly, was designed to be compatible with terminals and personal computers which are widely available commercially. The goal of PDQ is to disseminate information on progress in cancer treatment to practicing physicians and to reduce cancer mortality nationwide. To achieve these goals, NCI has leased PDQ to commercial vendors. The section detailing commercial vendor activities will provide further information on this venture.

The Cancer Information File contains prognostic and treatment information on the major types of cancer. For each tumor-type, a general summary (patient education) and a detailed summary (state-of-the-art statement) are provided, describing current prognosis, stage definitions and explanations, cellular classifications, treatment options that include a range of comparable standard therapies, and information on the investigational approaches under evaluation in clinical research trials, as well as key citations in the literature. The file is a convenient point of entry into the other two files, which provide detailed information about physicians, treatment facilities, and ongoing clinical trials. The prognostic and treatment information in the Cancer Information File was developed and refined in consultation with over 400 experts across the country, who served as reviewers.

The Directory File contains approximately 11,000 names and telephone numbers of physicians who devote a major portion of their clinical practice to the treatment of cancer patients, and the names, addresses, and telephone numbers of 1,400 health-care institutions that provide care for cancer patients.

The Protocol File contains over 1,000 active protocols supported by the National Cancer Institute as well as protocols submitted voluntarily by clinical investigators across the country. Each protocol summary provides study objectives, patient entry criteria, details of the treatment regimen, and information about who is performing the trial and where it is being conducted. The Protocol File can also be searched for details about the treatment regimens, special study parameters, and treatment schedules.

The responsibility for maintenance of the Cancer Information File resides directly in the OD, ICIC, while the ICRDB supervises the Protocol File and the CCB oversees Directory validation activities and computer input of cancer information. Specific accomplishments related to the protocol and directory files can be found in the respective Branch reports.

PDQ Editorial Boards:

The PDQ Editorial Board (including 10 physician members from the previous Board and 10 new members) met for the first time in October, and the new Editor-in-Chief, Dr. Robert C. Young, Chief of NCI's Medicine Branch, assumed the leadership in March. The Board meets monthly to review and discuss medical issues derived from perusing the literature and attending various medical meetings. Over the year, the Editorial Board has edited for clarity many of the tumor statements currently in PDQ. In addition, the Board has approved revisions to therapeutic options for such tumor statements as breast cancer, prostate cancer, Hodgkin's disease, nonsmall cell lung cancer, small cell lung cancer, non-Hodgkin's lymphoma, colon cancer, and kidney cancer. An average 20-25 statements are modified and updated each month. References to the current medical literature have been included and new tumor statements have been added. These include a statement on hairy-cell leukemia, malignant pheochromocytoma, peripheral neuroepithelioma, and childhood soft tissue sarcoma, nonrhabdomyosarcoma. Current plans call for the addition of new state-of-the-art statements for germ cell tumors of the ovary, histiocytosis X, uterine sarcomas, ureteral and transitional cell tumor of the renal pelvis, pediatric germ cell tumor, pain and pain management, and oncologic emergencies. Major attention has been focused on the condensation of 22 site-specific head and neck statements into 8 anatomically based statements to provide information in a way that is more clinically useful. Board members survey the literature appearing in scientific journals for data that warrant changes to the state-of-the-art statements. ICIC staff supplement the Board's efforts by scanning a set of core journals on a monthly basis. This activity is performed by a subject specialist and coordinated through the Office of the Director. The PDQ Editorial Board also reviews treatment protocols that are voluntarily submitted for inclusion in PDQ to ensure they meet medical and ethical standards. In the past year, the Board has considered approximately 140 protocol submissions.

Assisting the Editorial Board is an Extramural Board of Associate Editors. This Board serves as advisors and is consulted when changes in standard therapy are proposed. The members of the Extramural Board review and critique the statements in PDQ on a semiannual basis for accuracy and currency.

Restrictions on access codes to the NLM version of PDQ were reviewed by the National Cancer Advisory Board in February. NCI staff were given full responsibility for evaluating access code applications. As a result, access codes are being granted to a diverse group of individuals with legitimate professional interest in cancer treatment information.

PDQ has been designated an official DHHS resource for the active dissemination of the latest information on AIDS. To this end, PDQ contains a state-of-the-art statement on AIDS which is reviewed on a regular basis by NIAID scientists. NCI is fulfilling this responsibility through close collaboration with staff in NIAID. A committee staffed by NCI and NIAID scientists have actively been promoting the development and evaluation of new drugs to treat AIDS. As nationwide clinical trials of new therapeutic agents are initiated, they will be highlighted in PDQ in the same manner that information on promising new anticancer agents such as interleukin-II and tumor necrosis factor have in the past.

Commercial Vendors of PDQ:

The National Cancer Institute, with the assistance of ICIC staff, provides monthly PDQ update tapes to BRS/Saunders, Mead Data Central (MDC), and Telmed. BRS/Saunders has made PDQ available to physician subscribers on its COLLEAGUE database system. MDC provides PDQ as a component of its MEDIS database. A Swiss firm, Fondation Suisse Telmed, will provide PDQ to European users.

Promotional Activities:

The ICIC takes an active role in informing the medical and research community with its varied products and services. Throughout the year, ICIC staff have attended exhibits at numerous annual meetings of clinical and basic research groups, such as the American College of Surgeons, the American Society of Hematology, the American Academy of Family Physicians, the American Society of Therapeutic Radiology and Oncology, The Oncology Nursing Society, American Society of Clinical Oncology, and American Association for Cancer Research. ICIC staff will demonstrate use of the database at the 14th International Cancer Congress in Budapest, Hungary. Papers detailing various aspects of the PDQ database were presented in Monaco and France and, also, submitted to several journals and medical texts.

ICIC plans to encourage awareness and use of PDQ in a number of medical schools by providing limited unbilled usage of the database. The ICIC information booklet will be mailed to each U.S. medical school to inform deans and, ultimately, medical students, of the scope of the National Cancer Program and the variety of scientific information services available.

Through attendance at exhibits at biomedical meetings and through answers to routine inquiries for information about its publications and databases, ICIC responds to the NCI mandate to disseminate results of scientific research as rapidly as possible. Apprising potential users of the products and services of ICIC is a major activity within the Office of the Director. In addition to performing the aforementioned activities, staff of the ICIC have on numerous occasions provided tours and presentations at the Bloch International Cancer Information Center to various groups and individuals from within NCI, the American Cancer Society, the UICC, PAHO, and other distinguished foreign scientists.

Cancer Communications Network (CCN):

ICIC staff maintain close communications with professionals and volunteers of the Cancer Communications Network. Each quarter, customized PDQ printouts are delivered to Cancer Information Service (CIS) offices for use in responding to patient and public inquiries. Additional training and consultative sessions have been conducted, as necessary, so that CIS staff remain facile with all aspects of the PDQ database.

PDQ System Analysis and Design and Usage at NLM:

Improvements and enhancements to searching PDQ have been steadily developed and implemented over the past year. Further programming efforts aimed at an expert mode of searching have been achieved. These enhancements permit more precise searching and enable users to streamline their searches more effectively.

Examples of these enhancements include the addition of context sensitive help screens that have been incorporated throughout the database; improved browsing and printing capability, including the ability to customize protocol displays; and keyword searching in protocol titles. Additional enhancements to the retrieval software has permitted PDQ to extract keywords from a diagnostic term as it is entered, enabling users to enter a variety of synonyms to identify a specific diagnosis. Development of an online data dictionary and online maintenance are ongoing projects.

Hourly usage of PDQ at the NLM has steadily risen over the year, placing PDQ consistently as one of the most often used MEDLARS databases. Communication with librarians, CIS staffers, and physician users has led to continuing improvement of the PDQ system at the National Library of Medicine. Areas to be developed in the future include a literature file and dose modifications for standard protocols.

The ICIC has submitted a request for OMB clearance for an evaluation project to determine user satisfaction with its scientific journals, databases and their derivative publications; to identify improvements that are needed to meet the scientific and medical community's need for current information; and to assess the effectiveness of information services provided to the biomedical community. It is expected that results obtained from this evaluation will assist staff to appropriately set goals and objectives and reallocate scarce resources so as to improve its information dissemination efforts.

INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) BRANCH

The ICRDB was established by the National Cancer Act of 1971 and has developed a comprehensive range of technical information services and products that disseminate cancer research information to scientists and practicing physicians around the world. The major information resources produced by the ICRDB are:

1. The online computer databases of the CANCERLINE system, and the PDQ database, which enable scientists to retrieve cancer information at more than 4,000 locations within the U.S. and 14 foreign locations.
2. Two major series of publications (CANCERGRAMS and ONCOLOGY OVER-VIEWS) containing abstracts of published cancer research results in special formats designed for easy use and quick reference.
3. Other specialized information collection, analysis, and dissemination activities.

There are three databases comprising the CANCERLINE System which include: CANCERLIT (abstracts of published cancer literature); CANCERPROJ (descriptions of cancer research projects); and CLINPROT (detailed summaries of investigational clinical protocols). The fourth database is PDQ, which provides user-friendly access to state-of-the-art overviews of all major tumor types, ongoing cancer clinical research programs, and physicians and organizations involved in cancer treatment.

All of these files are mounted on the National Library of Medicine's (NLM) computer system. PDQ is also available from commercial sources, and other components of the CANCERLINE system are expected to be available commercially in the future. The cancer databases are described in more detail below.

CANCERLIT is a comprehensive archival file of more than 525,000 bibliographic records with abstracts describing cancer research results published since 1963 in biomedical journals, proceedings of scientific meetings, books, technical reports, and other documents. During FY 85, CANCERLIT grew at an annual rate of more than 60,000 abstracts. Since 1980, all entries in CANCERLIT have been indexed with the Medical Subject Heading (MeSH) vocabulary of the NLM. Beginning in February 1986, a new CANCERGRAM Identifier (CG) field was added to CANCERLIT to make it possible to identify records in this database that have been included in one or more prior year CANCERGRAMS. The CANCERLIT database is updated monthly to provide a comprehensive, up-to-date resource of published cancer research results.

CANCERPROJ contains descriptions of some 10,000 current cancer research projects, including nearly 4,000 projects under way in 76 countries outside of the U.S. The foreign projects are collected with the help of an international network of data coordinators, including staff members of the International Union Against Cancer (UICC), who help to establish and maintain this network. Like CANCERLIT, CANCERPROJ can be searched using the MeSH vocabulary, including the Supplementary Chemical Terms. The CANCERPROJ files have been updated and supplemented with new projects on a quarterly basis. However, FY86 budget restrictions have forced a decision to let lapse the contract activity which processed new input to CANCERPROJ, resulting in suspension of further updating of the file after July 1986.

CLINPROT provides information on therapeutic approaches, which are undergoing testing for the treatment of cancer patients. It includes both foreign and domestic research protocols and archival listings of protocols which have closed, as well as those which are currently under way. Data contained in CLINPROT include detailed summaries of some 5,500 investigational cancer therapy protocols, including about 1,500 active protocols and 4,000 completed protocols. CLINPROT can be searched using the Elhill retrieval language, which permits rapid identification of protocols based on diseases treated and types of therapy used.

PDQ is the user-friendly knowledge base which links three types of cancer information together: capsule and state-of-the-art summaries of all major cancers and their treatment; listings of active cancer therapy protocols; and physicians and organizations involved in cancer treatment. The ICRDB has direct responsibility for maintaining the currency and accuracy of the protocol file in PDQ, including the associated persons and organizations. This file is updated on a monthly basis. Additionally, design changes and enhancements to the other files of PDQ are reviewed (and often initiated) by Project Officers within the ICRDB.

A fifth cancer database, CANCEREXPRESS, was discontinued and removed from the NLM online system as of October 1, 1985. All information formerly available in CANCEREXPRESS remains available in CANCERLIT.

In support of the cancer databases and publications, the ICRDB Service Desk logged and responded to 1,238 telephone calls during the period of June 3, 1985, to May 30, 1986. These calls totaled over 161 hours of staff time for an average of 7.8 minutes per call. About 40 percent of the calls concerned search strategies, logins, and other problems encountered while accessing the databases. A majority of these questions were about PDQ.

Since October 1984, the ICRDB has assigned more than 340 PDQ access codes, excluding those provided to the PDQ Editorial Board, CIS centers, and ICIC staff and contractors. Approximately 185 of these codes were assigned during the 12 months ending May 1986.

There are more than 4,000 domestic and more than 1,000 foreign centers that have access to the cancer databases on the MEDLARS system. In the past year, more than 1,500 new domestic centers have been added. There are currently 14 principal foreign MEDLARS centers which offer access to these databases for foreign medical institutions and physicians. Thirteen offer access to CANCERLIT, nine offer access to CANCERPROJ, eight offer access to CLINPROT, and eight offer access to PDQ.

In addition to the databases, the ICRDB Branch of the ICIC publishes two major series of publications called CANCERGRAMS and ONCOLOGY OVERVIEWS. These publications are described below.

CANCERGRAMS are a series of 65 monthly current awareness bulletins, each containing abstracts/citations referring to recently published articles and other documents describing cancer research results. More than 10,000 cancer researchers receive issues of those CANCERGRAMS most directly related to their area of research each month. CANCERGRAMS are produced in three major subject areas: Carcinogenesis, Cancer Biology, and Cancer Diagnosis and Therapy.

ONCOLOGY OVERVIEWS are retrospective bibliographies containing abstracts/citations referring to papers published in CANCERGRAMS during the preceding several years on key cancer research topics of high current interest to scientists and clinicians. Recent OVERVIEWS have dealt with topics such as RAS Oncogenes, Breast Cancer Demography, Lymphokines in Clinical Trials, and Treatment of Small Cell Lung Cancer.

The ICRDB also publishes Recent Reviews in three broad subject areas as an annual supplement to CANCERGRAMS. Each issue is a compilation of the abstracts of 250-400 review articles published in the "Notice of Current Reviews" section of each CANCERGRAM series.

The following special activities are supported by the ICRDB Branch:

CIDACS--Under contract with the NCI, two Cancer Information Dissemination and Analysis Centers (CIDACS) function as information resources covering clinical and basic cancer research. They are the CIDAC for Diagnosis and Therapy located at the M.D. Anderson Hospital and Tumor Institute, Houston; and the CIDAC for Carcinogenesis and Cancer Biology located in Philadelphia Information Ventures Inc. Each CIDAC is staffed by scientists and a network of cancer research consultants. These staff members provide the expertise required for the preparation of CANCERGRAMS and ONCOLOGY OVERVIEWS, as well as for other services such as CANCERLINE searching. The CIDACS possess the subject expertise to provide background information and state-of-the-art data for use by NCI Boards of Scientific Counselors, and special events such as consensus conferences and other scientific meetings.

Literature Research--The ICRDB staff includes technical information specialists whose subject expertise allows them to conduct literature research for the production of ICIC products and services. Information from the published literature on all aspects of the therapy of cancer is also provided to NCI's Division of Cancer Treatment (DCT). Data from the fields of chemotherapy, radiotherapy, surgery, immunotherapy, and the related chemical and biomedical disciplines are used by the staff in Decision Network review. Thus, the ICRDB supports DCT in meeting Food and Drug Administration requirements for Investigational New Drug filing, preparing clinical brochures and annual drug reports, and the evaluation of toxicological and clinical studies. Approximately 275 requests for information were received and filled during the year. Responses were provided as comprehensive or selected bibliographies, computer print-outs, abstracts or copies of articles. Over 100 of the requests entailed manual literature searches supplemented by the various automated bibliographic systems. A total of 21 bibliographies were prepared for compounds discussed at three Decision Network meetings. Monthly SDI (Selective Dissemination of Information) bibliographies are produced for members of the staff on specific subjects of continuing interest.

Support for the PDQ Editorial Board is provided by a subject specialist who locates references that provide new data on developments in cancer treatment and updated data on the efficacy of therapeutic regimens considered to represent state-of-the-art treatment vis-a-vis modification of current state-of-the-art statements. The full text of these references is forwarded to the Editor-in-Chief of the PDQ Board.

A further responsibility is the maintenance of the International Cancer Information Center Library, a collection of journals and books for the use of NCI staff. Copies of over 60 journals are regularly received including many of the cancer journals, abstracting and indexing secondary sources, and chemical, biomedical or information science journals of special interest to ICIC personnel.

COMPUTER COMMUNICATIONS BRANCH

The Computer Communications Branch (CCB) was created in October 1983. It maintains and operates the Computer Communications Center and a local area network in support of centralized scientific and medical information services of the National Cancer Institute. Other activities include developing and publishing standards and procedures for use of the computer facility and the terminal devices linked to it; developing and acquiring systems software and telecommunications to support the computer facility; coordinating all hardware and systems software of the computer center to optimize efficient operation; developing, maintaining, and upgrading by exploiting state-of-the-art technology, highly specialized electronic information delivery systems; and developing long-range plans to support ADP activities.

The CCB also provides services such as mailing label production for the President's Cancer Panel meetings, for special monograph mailings, and for the Cancer Information Service. Programming services for the manuscript tracking system for the Publications Branch and for the PDQ/INQUIRE delivery system for the National Library of Medicine are provided by CCB personnel.

The CCB is the organizational home for computer/production support of the PDQ database. The CCB responsibility associated with PDQ is the monthly production of PDQ distribution tapes for the National Library of Medicine and information vendors in the private sector. The information on the tapes is the culmination of data collection and input from an ICRDB Section contractor and two CCB contractors, and medical information supplied by the PDQ Editorial Board. It is categorized into the following files:

DESCRIPTION: An overview file describing PDQ and warning of restrictions on duplicating PDQ data.

CANCERINFO: A file consisting of an index of cancer diagnoses, a summary of information for patients describing each cancer, and state-of-the-art information about each cancer. The information for patient summary consists of general prognostic information, stage explanations, and treatment options by stage. The state-of-the-art statement describes the full range of treatment approaches available for each treatment modality for each stage and/or histologic subtype.

DIRECTORY: A file containing the list of physicians and organizations that specialize in cancer treatment.

PROTOCOL: A file that contains information on all cancer treatment protocols supported by NCI and all voluntarily submitted protocols from cancer organizations/institutions throughout the United States as well as foreign countries. Active protocols (protocols open for patient entry) contain additional information on participating organizations/institutions and physicians.

CANCERTERM: A file that contains the names, synonyms, definitions, and inter-relationships of the cancer terminology used in the PDQ knowledge base/information system.

PUBLICATIONS BRANCH (PB)

The PB conducts the coordination of the publication of cancer research findings in the NCI's scientific journals and is responsible for developing and implementing procedures that improve the dissemination of published information to the scientific community. The branch was established in 1984 to effect the optimal utilization and consolidation of staff and resources which support the three technical journals produced within the Branch. There are two monthly publications, Cancer Treatment Reports (CTR) and the Journal of the National Cancer Institute (JNCI), and one intermittent publication, NCI Monographs (NCIM). The Branch Chief is responsible for the overall management of the two sections which produce the journals: the Cancer Treatment Reports Section and the Journal of the National Cancer Institute Section.

Consolidation and streamlining of manuscript tracking activities has continued through 1986. The computerized tracking system, which uses dBASE III software and IBM hardware, has been fully implemented for all ICIC journals produced in the Publications Branch: CTR, JNCI, and NCIM. As part of this records automation, the review process has been extensively revised and expedited, leading to a decrease in the time between manuscript submission and acceptance.

As a result, the scientific articles included in each journal are published more promptly, facilitating a more rapid dissemination of the results of research and treatment of cancer. Statistical reports available from the manuscript tracking system have assisted the Editors-in-Chief to continually analyze and evaluate the trends in manuscript submissions, reviews, and revisions. Based on their analyses, they can suggest changes and procedures which will additionally expedite review and publication of the articles. Finally, a post-tracking system is in the planning stages for processing of editorial office operations with regard to editing and processing articles for printing.

A proofreading contract, which supports the proofreading of galleys and page proofs of the three journals and miscellaneous reports of the activities of the ICIC, was awarded in October 1985. This is a 3-year contract effort which helps ensure the maximum accuracy of the scientific content of the cancer research and treatment articles published.

In the spring of 1986, the first issue of NCIM, the new combined supplement of the two previous supplements, Cancer Treatment Symposia and the NCI Monograph Series, will be published and distributed. As planned, the Editors-in-Chief of both primary journals have scrutinized all requests for publications of meetings and reports and only those meetings of scientific merit are being accepted and printed. Mechanisms for printing the NCIM in the most efficient and rapid manner are continually investigated to contain costs and maximize distribution.

By mid-1986, a single printing contractor has responsibility for the printing and distribution of CTR, JNCI, and NCIM. The Government Printing Office (GPO) award, which is a 5-year contract for CTR and JNCI is precedent-setting both for the NCI and GPO. By consolidating all printing activities in one contract, the Branch hopes to achieve greater cost savings from year to year while producing high-quality publications. The NCIM is printed on a 2-year term contract. There is a cooperative effort to monitor the printing contracts by program staff, NIH Printing, GPO, and the printer to ensure that the most efficient and cost effective methods for publishing are employed. New advances and techniques in electronic publishing are being actively investigated.

The Branch Chief continues to be the Leader for the Subscriptions and Periodicals Task Force (50 members), a component of the Federal Publishers Committee, an interagency group with more than 450 members. Through the Task Force meetings over the last year, members (many of whom are NIH employees) have gained insight into the complex workings of the GPO. This greatly assists them in effective management and operations of their publications. As members of the Federal Publishers Committee, we receive the latest information about changes or proposed changes by the Department, Office of Management and Budget(OMB), and other agencies whose operations affect our own.

The PB utilizes and participates in the project management of the Technical Support Services contract with Nancy Low and Associate which provides services to handle mailings, requests processing, back issue storage, and inventorying for the three journals. In addition, marketing initiatives

include participation at exhibits of medical conferences and direct mail promotions to target audiences to increase awareness of the journal's availability. An evaluation of NCI's journals will be included in the evaluation project that will be conducted to determine the value of ICIC products and services to the scientific community. The results of this evaluation will be used to plan future dissemination activities of the ICIC and to assist program staff to enhance the quality of each of the publications. In early 1986 an ICIC copyright release system was implemented. This system facilitates rapid acquisition and processing of copyright release from authors whose manuscripts have been accepted for publication in one of the three journals.

The PB interfaces with the other ICIC branches by serving as the coordination point for publications reports, which are required by the NIH Editorial Operations Branch or the NIH Printing and Reproduction Branch. These reports involve responses to OMB inquiries and preparation of GPO printing contract information. The Branch also provides technical advice and service to ICIC in matters related to medical editing, writing, and publishing techniques and procedures.

Cancer Treatment Reports Section

This section publishes Cancer Treatment Reports (CTR), a journal containing technical articles detailing scientific research in all phases of clinical and preclinical cancer therapy, and NCI Monographs (NCIM), an intermittent supplement to both CTR and the Journal of the National Cancer Institute (JNCI) focusing on single key topics related to any phase of cancer research. CTR is issued monthly and has a distribution of more than 6,900, which includes members of the local, national, and international scientific communities as well as medical and university libraries. NCIM is issued approximately six times per year and has a distribution of about 4,800. Publication of the CTR supplement, Cancer Treatment Symposia (CTS) was discontinued in 1986.

Timely and accurate publication of these journals is accomplished by editing, designing, formatting, and proofreading all accepted articles and by closely supervising and tracking the activities of the GPO contractor in the final printing and distribution of each journal.

CTR was first printed in January 1959 as Cancer Chemotherapy Reports under the direction of the Cancer Chemotherapy National Service Center program. From 1959 to 1968, the journal was issued six to ten times a year, depending on the number of manuscripts submitted and accepted for publication. In 1968 the journal was expanded to three distinct parts: 1) Original research, both experimental and clinical; 2) Comprehensive chemotherapy studies involving tabular material; and 3) Program information including treatment protocols, clinical brochures, toxicology reports, and review articles.

In January 1976, the journal was renamed Cancer Treatment Reports. The three-part, separately numbered system was dropped, and the journal began monthly publication. The journal was published in the DCT until October 1983, when the Scientific Information Branch (SIB) was moved into the

OIA, OD, NCI. In August 1984, the ICIC was created to disseminate information to scientists on behalf of the NCI. As a result, a Publications Branch (PB) was established, and Cancer Treatment Reports became a section of the PB.

The journal now considers unsolicited and previously unpublished manuscripts of original research under six major categories: Full-Length Manuscripts, Brief Reports, Clinical Trials Summaries, Letters to the Editor, Meeting Reports, and Mini-symposia.

The Editorial Board of CTR includes the Editor-in-Chief and 12 associate editors. Dr. Robert E. Wittes, Associate Director, Cancer Therapy Evaluation Program, DCT, NCI, is the current Editor-in-Chief. Each year three editors rotate off the board and three new members are added. Provisions have been made to allow editors to have an additional year on the board at the discretion of the Editor-in-Chief. An Advisory Board of 15 members has also been established to supplement the areas of expertise represented by the associate editors. The current members of the Advisory Board, who serve 2-year periods of service, began their term in October 1984. The official policies of the journal are contained in a charter which was established in 1975.

All material submitted to CTR for consideration is subject to review by two or more outside referees and a member of the Editorial Board. The Editorial Board is responsible for determining the scientific content of the journal. The associate editors assign new manuscripts to reviewers and make decisions on the fate of each manuscript after review. Proposals for the publication of special issues (NCIM) are discussed with the Board by the Editor-in-Chief prior to formulation of a decision to publish. The Board and the Editor-in-Chief advise the Managing Editor about scientific priorities with respect to the journal. The Managing Editor in turn advises the Editor-in-Chief and the Board on administrative issues as well as editorial policy and procedures. The CTR Editorial Board meets on a monthly basis.

The January 1985 issue of CTR featured an editorial by Dr. Richard Simon, a CTR associate editor, and Dr. Robert E. Wittes, Editor-in-Chief. It proposed a set of methodologic guidelines for reports of clinical trials to help measure and ensure the quality of work published in the journal. The guidelines were reviewed and generally endorsed by members of the CTR Advisory Board, as well as by the editors of several cancer-specialty journals. In November 1985, at the invitation of the CTR Editor-in-Chief, the editors of some seven cancer-specialty publications meet at the ICIC to discuss the guidelines and the feasibility of their adoption by other journals.

In January 1986, an editorial in the Journal of Clinical Oncology endorsed the guidelines. Both the American Journal of Clinical Oncology and Cancer have indicated plans to adopt the guidelines in some form.

During 1985, 564 manuscript submissions were processed, and as of June 1986, 221 manuscripts have been submitted to CTR for consideration. In late 1984, the tracking of procedures involved in manuscript review was converted to a completely computerized document control system. This has enabled fewer personnel to handle manuscript tracking tasks more efficiently and expeditiously. During this conversion to the computerized system, the

manuscript tracking for CTR was merged with that for the other PB journal, the JNCI, and the operation became a function of the PB rather than of either CTR or JNCI.

Table 1 shows a comparative analysis of publication activity for CTR over the last 10 years:

TABLE 1*

Year	No. of Manuscripts--		No. of--		
	Received	Accepted	Issues	Pages	Reviewers
1975	365	261	9	1888	295
1976	478	302	12	2021	402
1977	422	313	9	1771	432
1978	578	364	12	2168	557
1979	740	667	10	2175	695
1980	576	269	4	827	595
1981	499	212	6	1159	339
1982	572	282	12	2149	470
1983	585	333	11	1181	536
1984	588	390	11	1556 ⁺	548
1985	564	299	11	1501	569
1986 [§]	221	94	5	695	---

*Does not include supplementary publications.

⁺Includes 25th anniversary issue (January 1984)

[§]As of June 10, 1986

The following sections comprise the Journal:

Full-length manuscripts -- This section contains the results of clinical or preclinical research which have been given a high priority for publication as full-length manuscripts ranging from 7 to 20 printed pages. Included in this section are special features, editorials, and commentaries from scientists (at the invitation of the Editorial Board) on subjects of current interest in cancer treatment.

Brief Reports -- This section contains short manuscripts, usually clinical, and abbreviated reports of preliminary research which can be processed more quickly than full-length manuscripts. They are cost efficient and serve to increase the number of current research studies which can be disseminated to the readership.

Clinical Trials Summaries -- This section contains concise summaries of data from clinical trials that have produced negative results. The format requires authors to limit their text to approximately 300 words and to summarize the tabular data into one table which lists patient characteristics, toxicity, response, and survival information. As with the Brief Reports section, the brevity of these reports allows a greater number to be edited and printed in each volume, resulting in rapid dissemination of information.

Letters to the Editor -- Letters to the editor may or may not be in response to previously published articles and are reviewed prior to acceptance as are any other manuscript submissions. They are often vehicles for short case reports.

Book Reviews -- In late 1985, the Editorial Board decided to add an intermittent Book Reviews section to CTR. The journal's first book reviews were published in the February 1986 issue.

Meeting reports and mini-symposia -- When time and space permit, CTR publishes the proceedings of meetings (usually there are less than 10 papers). The following two, somewhat larger symposia appeared in CTR in 1985-1986: Methodology and Quality Assurance in Cancer Clinical Trials (October 1985) and Laboratory Models and Clinical Cancer (January 1986).

Miscellaneous -- In 1986, ICC News was added as an intermittent section of CTR to inform the readership about the availability of ICIC programs and data bases. CTR also has an Announcements section at the end of every issue announcing meetings, fellowships, and other items of interest to cancer researchers. As needed, special announcements (obituaries, dedications, etc.) appear before the contents page. Finally, annual indexes by subject and author and a list of the year's reviewers are prepared and published in the last issue of each year.

In 1985, the Printing Procurement Section, PRB, NIH, began negotiating, through GPO, one 5-year Level I contract for both CTR and JNCI to take effect when the separate, ongoing printing contracts for each journal ended. With the July 1986 issue, CTR began operations under this new 5-year contract, which is considered precedent-setting in its length and its requirement for the highest quality level.

Distribution and Marketing of CTR: As part of the approval to publish, the OMB allows CTR to distribute 2,390 free copies to qualified medical groups, physicians, and libraries. Another 4,000 copies are sent to the GPO to distribute to paid subscribers. In January 1986, there was an increase of 200 new paid subscribers (from 3,600 to 3,800), and in May 1986 the number increased by another 200 (to 4,000). The subscription rates set by the GPO are \$29.00 (domestic) and \$36.25 (foreign). Single copies are \$4.00 and \$5.00, respectively. Congress requests 486 copies of each issue of CTR for distribution to depository libraries.

During the past year, CTR became available on-line as part of two computerized medical information services that offer full-text medical databases. The two commercial vendors are BRS/Saunders and Mead Data Central. Both firms are promoting CTR to subscribers. Various marketing initiatives have been made to increase both the readership and subscription base of CTR. The journal is listed in various catalogs internationally, and exchange advertising has been arranged with the JNCI, CTS, Cancergrams, Public Health Reports, and Alcohol Health and Research World. A marketing letter from the Editor-in-Chief was sent to the membership of the Society of Surgical Oncology (SSO) in May 1985 and to the membership of the American Society for Therapeutic Radiology and Oncology (ASTRO) in November 1985. This letter was not only an invitation for surgeons and radiologists to subscribe to the journal but also an invitation for them to help CTR broaden its content to include more results from surgical and radiation oncology. Responses to this initiative, though difficult to quantify, have been noted.

Coverage of CTR in Current Contents and Related Publications: Since 1967, CTR has been listed in Current Contents, Life Sciences. The following also include CTR: a publication of current titles from Science, Engineering, Medical and Business Data, Ltd., Oxford, England; the Japan Medical Service, which publishes a supplement to its Index to Japanese Medical Periodicals listing foreign publications; and Chemical Abstracts. Advance copies of the CTR table of contents are sent to the Journal of Urology, BRS/Saunders, and ONCOBA (French database).

Cancer Treatment Symposia and NCI Monographs

Each issue of CTS or NCIM is approved at the NIH level. A total of three CTS issues have been printed or are in press between May 1985 and June 1986.

1. Proceedings of the Workshop on Radiotherapy for Lung Cancer. Cancer Treat Symp, vol. 2, 1985.
2. Proceedings of the National Institutes of Health Consensus Development Conference on Limb-Sparing Treatment of Adult Soft Tissue Sarcomas and Osteosarcomas. Cancer Treat Symp, vol 3, 1985.
3. Compilation of Phase II Results with Single Antineoplastic Agents. Cancer Treat Symp, vol 4, 1985. In press. (This will be the final issue under the CTS title.)

The following two issues of the new NCIM are currently in press:

1. Proceedings of the NIH Consensus Development Conference on Adjuvant Chemotherapy and Endocrine Therapy for Breast Cancer. NCI Monogr 1, 1986.
2. Cancer Control Objectives for the Nation: 1985-2000. NCI Monogr 2, 1986.

Journal of the National Cancer Institute Section

The Journal of the National Cancer Institute Section is a component of the PB, ICIC, OIA. This section is responsible for the publication of JNCI, the

Journal of the National Cancer Institute. Since it was founded in 1940, the JNCI has been one of the main vehicles for dissemination of the latest research findings on progress against cancer. Papers published in JNCI are from the entire cancer research community worldwide, and they report on the clinical and experimental aspects of research in cancer biochemistry, immunology, virology, epidemiology, carcinogenesis, and cancer control and prevention.

JNCI invites manuscripts on original observations in all aspects of cancer research or on basic research relating to cancer. During the 12-month period, May 15, 1985, to May 14, 1986, researchers submitted 689 manuscripts for publication in JNCI.

The 689 manuscripts received during this period represent a significant increase over the 654 manuscripts received during the previous report period. This is the second year that submittals have exceeded those of the previous year. The increase last year followed several years of steady decline in manuscript submittals.

The total number of pages published for the period was 2,554, compared to 2,929 pages in the preceding 12-month period. Volume 75 (July-December 1985) contained 1,214 pages and volume 76 (January-June 1986) contained 1,340. The decrease in pages reflects a more selective policy of acceptance instituted during the past year. In addition to regular manuscripts, the content of JNCI during this period included 5 guest editorials, 5 meeting highlights, 11 letters to the editor, and the proceedings of a workshop on bone marrow transplantation, which comprised 14 papers.

The manuscripts published in JNCI fall into the following categories:

1. Regular manuscripts - Original findings of research studies or experiments involving humans or nonhuman systems.
2. Guest editorials - Invited papers on cancer research that transmit the essence of current work in a special field of study.
3. Letters to the editor - Usually pertain to articles published in the Journal and contain no new data. Authors addressed are invited to reply to comments before correspondence is published.
4. Historical notes - Articles related to the historical aspects of cancer research or individual researchers.
5. Special reports - Articles of significant size or subject matter that fall outside the scope of regular experimental studies.
6. Meeting highlights - Summaries of major meetings, symposia, conferences, and workshops.
7. Proceedings - Collections of papers presented at a meeting, conference, or symposium of significant importance to cancer research.

An announcements section that gives notices of future meetings, courses, fellowships, the availability of experimental materials, and other items of related interest is also published. Occasionally, obituaries or memorial

dedications to outstanding individuals in cancer research are published. The December issue of each year contains subject and author indexes, as well as an acknowledgment list of individuals who served as reviewers of the manuscripts submitted in the past year.

The JNCI editorial board includes the Editor-in-Chief, Assistant Editor-in-Chief, and 16 associate editors; all members of the NIH staff. The Editor-in-Chief is Dr. Peter Greenwald, Director of the Division of Cancer Prevention and Control. Associate editors are recognized experts in their respective areas of cancer research and periodically rotated off the Board and new editors are appointed. The editorial board, which meets at least four times a year, is responsible for establishing scientific priorities for the journal and determining its scientific content. The associate editors are assigned new manuscripts according to their specialty, and they are responsible for selecting two or more qualified referees to review each paper. On the basis of the reviews, the editor makes a recommendation on acceptance to the Editor-in-Chief.

Another function of the editorial board is to recommend topics of interest for solicited guest editorials or special reports. The editorial board also reviews proposals to publish proceedings of meetings, symposium, or special studies as NCI Monographs.

The editorial board is advised on technical, administrative, and procedural matters by the managing editor, who assures that the board is aware of pertinent policies, precedents, and other matters concerning the JNCI, and, in turn, keeps the JNCI publication staff informed of the decisions of the board and implements actions that the board may direct.

All manuscripts submitted for publication in JNCI are processed by the manuscript processing office of the Publications Branch, and progress is followed by means of a computerized tracking system. The system maintains a detailed record of all manuscripts received for publication in JNCI. The current status of each manuscript through the review, revision, and acceptance/rejection stages is instantly available.

A new 5-year contract, which was implemented through the GPO, for typesetting, printing, and binding of JNCI. Incorporated into this contract is an accelerated publication schedule that will reduce the time required to publish a manuscript after it has been accepted for publication.

The OMB has authorized JNCI to distribute 1,768 free copies to qualified researchers, institutions, and libraries. Complimentary copies are also provided to several secondary publications for electronic publication, microfilming, abstracting, and indexing. As prescribed by Congress, 699 copies are provided to designated depository libraries throughout the United States. Paid subscribers to JNCI currently number about 2,200; however, the majority of these are institutions or libraries. The subscription rate set by the GPO is \$59.00 per year; the price outside the U.S. is \$73.75.

To increase the JNCI subscriber base, various marketing initiatives have been pursued. Subscription ads for JNCI have been placed in the journal

itself and in other government publications, including Cancer Treatment Reports, CANCERGRAMs, and Alcohol Health and Research World. Ads in JNCI have also been used to promote publications and services of the ICIC; namely, PDQ, CANCERPROJ, CANCERGRAMs, Oncology Overviews, Cancer Treatment Symposia, National Cancer Institute Monographs, and Cancer Treatment Reports. Other promotional activities have included participation in ICIC exhibits at professional and scientific meetings. Exhibits have appeared at meetings of the American Society of Clinical Oncology/American Association for Cancer Research and the American Public Health Association.

Coverage of JNCI in Other Publications: Significant articles from JNCI on human cancer are abstracted monthly in Annals of Internal Medicine, and the International Journal of Cancer regularly publishes advance copies of the JNCI Table of Contents. Advance Tables of Contents are also sent to Infodata International, Science News, ONCOBA (a French scientific database), and PREV (Medical and psychological previews database sponsored by BRS/Saunders).

JNCI is indexed and abstracted regularly by a number of secondary publications including Index Medicus, Current Contents, Chemical Abstracts, Excerpta Medica, and Cancer Bulletin Signaletique. It is also included in publications of the International Cancer Research Data Bank (ICRDB)--CANCERGRAMs and Oncology Overviews. JNCI is available as a full-text, on-line publication from two information database services. Mead Data Central has incorporated JNCI as part of its MEDIS medical information system. Another service, BRS/Saunders, has included JNCI as part of its COLLEAGUE on-line information system. The NLM has included JNCI citations in its MEDLINE and CANCERLINE databases for many years.

NCI Monographs

For many years, the JNCI has published a monograph series that has included the proceedings of conferences and symposia dealing with cancer and closely related research fields and serial collections of papers on specific subjects of importance to cancer research. A new publication, NCI Monographs, has been established to broaden the scope of subject areas. Papers related to cancer treatment and clinical studies that formerly would have been published in Cancer Treatment Symposia will now appear in NCI Monographs. The two older publications are being phased out as current commitments are fulfilled.

The last three monographs in the hardcover series were published during this period. They are the following:

- No. 68: Multiple Primary Cancers in Connecticut and Denmark;
December 1985
- No. 69: Fourth Symposium on Epidemiology and Cancer Registries in
the Pacific Basin; February 1986
- No. 70: Forty-five Years of Cancer Incidence in Connecticut; April
1986

Title: Current Cancer Research Project Analysis Center (CCRESPAC)

Contractor's Project Director: Ms. Boyanna Jacobson

Project Officer (NCI): Daniel Masys, M.D.

Objectives: This contract includes two activities:

Task A: Collection and processing of descriptions of ongoing basic and pre-clinical cancer research, both domestic and foreign, and keying this information into computerized data management systems for production of the CANCERPROJ database. This task is performed by Andrulis Research Corporation.

Task B: Preparing abstracts of investigational cancer treatment protocols, keying this information into computer-based information systems, and maintaining an up-to-date listing of participating institutions and investigators. The computerized protocol information is available in the PDQ and CLINPROT databases. This task is performed by Sterling Software, Inc. (formerly known as Informatics General Corp.), as a subcontractor.

Major Accomplishments:

Task A: The CANCERPROJ database contained over 10,000 project descriptions as of July 1986, reflecting input from investigators in 76 countries. During the preceding 12 months, the file grew by over 6,000 project descriptions. The process by which new project descriptions are received, abstracted, indexed, and converted into machine-readable format became highly efficient, with automated spelling checking, and index term checking consistently revealing error rates below 3%.

In February 1986, in response to budget reductions imposed by the Gramm-Rudman-Hollings Act, NCI elected to allow the contract to expire at the close of the current period, and thus to suspend updating of the CANCERPROJ database. The current contract was extended for two months to allow for an orderly close-out.

Task B: New approved protocols are abstracted at the rate of approximately 65 per month, and 100-120 existing protocols are updated by amendment each month. Transition to a "changes-only" monthly update tape was completed in January 1986. Subsequent monthly updates to the protocol file therefore contained information on 300-500 protocols, rather than the 5,000 previously sent each month. This change of procedure resulted in a 3 workday savings in the time required by the government Computer Support Contractor to produce the PDQ data tapes each month.

The pre-processing of protocols submitted for voluntary inclusion in the PDQ database was transferred from the Cancer Therapy Evaluation Program (CTEP) to the contractor in mid-May 1986. This activity includes review of protocol documents for completeness and appropriate medico-legal documentation, duplicate checking, assignment of identification numbers and preparation for review by the PDQ Editorial Board.

Dose Modification Task

Technical details of the format for dose modification information to be incorporated into the PDQ database were developed and agreed upon by NCI staff and the two contractors involved. A test tape of actual dose modification files was provided to the Computer Support Contractor late in May 1986. A physician consultant composed dose modification display files for over 60 active phase III studies and 31 standard therapy protocols, including breast cancer, Hodgkin's disease, Ewing's sarcoma, Wilms' tumor, pancreas cancer, and lung cancer. Review of this information by the PDQ Editorial Board was under way as of June 1986. A library of information displays pertaining to some 30 antineoplastic drugs was composed as an adjunct to protocol-specific dose modification files.

Proposed Course: This contract was terminated July 13, 1986.

Date Contract Initiated: April 16, 1984

Current Annual Level: This contract received no funding in FY 1986.

COURTESY ASSOCIATES, INC. (HEC 263-85-C-0031)

Title: Logistical Support Services for Development and Conduct of Health Exchange Cooperation

Contractor's Project Director: Ms. Sheila Stampfli

Project Officer: Dr. J. Wesley Simmons

Objectives: To provide financial accounting and furnish all necessary logistical support services for the development and conduct of health exchange cooperation.

Major Accomplishments: Arranged and coordinated international meetings and logistical support for the visiting delegations and various exchange scientists. This support included acquisition of conference rooms and equipment, transportation to and from point of arrival to meetings and hotels (both domestic and foreign), escort services, and payment of stipends.

Significance to Biomedical Research and Programs of the Institute: This support is high priority and extremely time consuming. Long-range planning and lead time are important especially when preparing for major meetings at which top level scientists participate. Because such scientific exchange programs often form the basis for surmounting constraints of different social and political systems, it is essential that all visitors (whether individual or members of delegations), be afforded the same level of treatment.

Proposed Course: The scope of work will be performed through September 30, 1987.

Date Contract Initiated: November 13, 1984

Current Annual Level: \$414,000

Title: ICRDB Document Announcement and Dissemination Service

Contractor's Project Director: Ms. Louisa Day

Project Officer (NCI): Ms. Jana Johnston

Objective: This agreement supports the printing and dissemination of ICRDB publications, the announcement of these documents to potential users, and maintenance of all ICRDB documents in archival storage for supplying copies on request. This agreement further supports the billing, collection, and crediting of fees from the leasing of ICRDB databases to private organizations and commercial vendors and enables NTIS to act as collection agency for the charges incurred by NCI use of access codes for online searching of cancer databases at the NLM.

Major Accomplishments: During FY 86, the NTIS printed and disseminated more than 24,000 copies of CANCERGRAMS per month to over 10,000 investigators, 15 ONCOLOGY OVERVIEWS, and three RECENT REVIEWS (a supplement to the CANCERGRAMS) to approximately 9,000 investigators.

Significance to Biomedical Research and Program of the Institute: This interagency agreement has allowed the ICRDB to fulfill one of its mandated activities, the broad dissemination of biomedical research information on cancer.

Proposed Course: As of FY 87 the ICRDB plans to discontinue using the NTIS to produce and distribute ICRDB publications, shifting these operations to the Government Print Office. The GPO offers more economical printing, and far more attractive sales and subscription prices for ICRDB publications. The interagency agreement will be revised to cover only database-related billing services and purchase of NTIS documents for ICIC use.

Date Agreement Initiated: September 30, 1976

Current Annual Level: \$560,500

DEPARTMENT OF STATE (Y01-CO-50720)

Title: Interpretation, Translating, and Escort Service

Contractor's Project Director: Mr. Harry Obst

Project Officer: Dr. I.J. Masnyk

Objectives: This project provides language services for foreign cancer specialists attending meetings while they are official guests of the NCI.

Major Accomplishments: Provided significant support to the NCI for interpretation, translation, and typing during meetings in the United States between American and Soviet delegations. Interpreter personnel accompanied Soviet cancer specialists, who were official guests of the United States as they visited cancer centers and biomedical institutes in the United States as designated by the NCI. This support was also provided for cancer specialists from the People's Republic of China, France, and Romania.

Significance to Biomedical Research and Programs of the Institute: This project makes available, as needed, interpreters, translators, and typists for the conduct of proceedings of meetings and accompanying delegations traveling in the United States or in the Soviet Union for pursuit of joint cancer objectives sanctioned by NCI.

Proposed Course: Contract will be terminated.

Date Contract Initiated: October 1, 1984

Current Annual Level: Contract received no funding in FY 1986.

Title: Proofreading Support Services

Contractor's Project Director: Ms. Barbara Shapiro

Project Officer (NCI): Ms. Jean Baum

Objectives: This contract with Grammarians, Inc., provides proofreading support to the International Cancer Information Center. Most of the Contract activity involves the proofreading of galleys and page proofs for the ICIC scientific technical journals, Cancer Treatment Reports and JNCI, which are published monthly, and NCI Monographs, which is published four to eight times per year. On an as-needed basis, miscellaneous proofreading is performed for small projects in the ICIC.

Major Accomplishments: Grammarians, Inc., has assembled highly qualified technical proofreading teams who have effectively handled the steady flow of galleys and page proofs sent to them for proofreading. In consideration of divergent publishing schedules, they have efficiently coordinated the proofreading for three journals and have met all deadlines as required. All documents have been thoroughly proofread for grammar, punctuation, and syntax and have been checked for adherence to journal style. It is imperative that the scientific and technical content of the articles included in each journal be accurate prior to final printing and distribution to the scientific community. All requests for miscellaneous proofreading have been handled promptly and accurately as well.

Significance to Biomedical Research and Program of the Institute: The ability to publish the most up-to-date cancer research treatment findings in the NCI's scientific journals is greatly enhanced by this proofreading contract. The rapid dissemination of the articles included in the journals facilitates the distribution of cancer information to the scientific community and thereby contributes to the advancement of the understanding of cancer. The proofreading performed for miscellaneous documents, which relate the scientific services of the ICIC, also facilitates the accurate transmission of cancer information to the scientific audience for whom it is intended.

Proposed Course: This contract will continue for a 3-year period, until October 14, 1988.

Date Contract Initiated: October 15, 1985

Current Annual Level: \$93,950

INFORMATICS GENERAL CORPORATION (NCI-CO-64088)

Title: Current Cancer Research/Protocol Analysis Center

Contractor's Project Manager: Ms. Marilyn Meinke

Project Officer (NCI): Mr. Cecil Lee

Objectives: Preparing abstracts of investigational cancer treatment protocols and dose modification information, keying and formatting this information for input to computer-based information systems, and maintaining an up-to-date listing of participating institutions and investigators.

Date Contract Initiated: June 16, 1986

Current Annual Level: \$781,369

INFORMATION VENTURES, INC. (NOI-CO-44016)

Title: Cancer Information Dissemination and Analysis Center (CIDAC) for Carcinogenesis and Cancer Biology

Contractor's Project Director: Dr. Bradford Fansler

Project Officer (NCI): Mr. Cecil W. Lee

Objectives: The CIDAC provides scientific input necessary to produce information products and services for cancer researchers, and provides guidance to the ICRDB Branch, in the areas of carcinogenesis and cancer virology, immunology, and biology.

Major Accomplishments: The CIDAC regularly produces 45 monthly CANCERGRAMS, current awareness bulletins containing abstracts of recently published literature. Ten ONCOLOGY OVERVIEWS, retrospective bibliographies with abstracts concerning high-interest topics in basic cancer research, are published annually. This CIDAC performs custom searches of the CANCERLINE databases in response to requests for information from researchers and health care professionals; submits monthly Highlight Reports, pinpointing significant new developments in preclinical areas of cancer research; and assists in database quality control. The CIDAC also recommends new information services to benefit cancer researchers.

Significance to Biomedical Research and Program of the Institute: The CIDAC serves as a valuable resource for the NCI and the worldwide basic sciences cancer research community. The CANCERGRAMS collectively provide comprehensive coverage of this entire field of basic cancer research, quickly alerting researchers to new findings with minimal expenditure of effort, thereby allowing them more time for productive research. ONCOLOGY OVERVIEWS enable their readers to rapidly update their knowledge in emerging areas of research concentration.

Proposed Course: The contractor will continue production of CANCERGRAMS and ONCOLOGY OVERVIEWS and provision of information services. Ways will be sought to increase the utilization of CIDAC information retrieval and analysis services by government-sponsored review or policy-making groups, e.g., consensus development groups, focusing on basic cancer research issues.

Date Contract Initiated: August 6, 1984

Current Annual Level: \$566,807

Title: Screening, Indexing, Abstracting, and Keying of Cancer-related Literature (SIAC)

Contractor's Project Director: Dr. Bruce Kleinstein

Project Officer (NCI): Mr. James Carter

Objectives: The SIAC project collects, indexes, and keys abstracts presented at meetings which describe current cancer research. The project also indexes and keys abstracts of books, journal articles, technical reports, and other documents not covered by NLM. These abstracts are part of the source material for CANCERLIT, CANCERGRAMS, and ONCOLOGY OVERVIEWS. Foreign abstracts are translated to English. Abstracts are written when none are given.

Major Accomplishments: During most of FY 86, approximately 1,000 items had been processed each month and forwarded to the ICRDB Computer Support Contractor for the final reformatting required to update the computer database. Due to budget restrictions for FY 86, this level has been reduced to 800. The meeting abstracts are collected from hundreds of medical conferences such as the American Association for Cancer Research, the American Society of Clinical Oncology, and the Federation of American Societies for Experimental Biology. Books and other documents are collected from hundreds of sources.

Significance to Biomedical Research and Program of the Institute: The SIAC project provides rapid, easy access to cancer research information presented at meetings and other sources not covered by the National Library of Medicine's MEDLINE database. This information can be retrieved by searching the CANCERLIT database in any narrow topical area of cancer or from reading the CANCERGRAMS and ONCOLOGY OVERVIEWS prepared from CANCERLIT by ICRDB contractors.

Proposed Course: The project will continue with no anticipated change for a 4-year period.

Date Contract Initiated: February 22, 1984

Current Annual Level: \$342,893 (2/22/86-2/21/87)

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (N01-CO-55195)

Title: Clearinghouse for Ongoing Work in Cancer Epidemiology

Contractor's Project Director: Dr. Donald Parkin

Project Officer (NCI): Dr. J. Wesley Simmons

Objectives: This contract provides a special mechanism for intensive collection and dissemination of information about current cancer-related epidemiology projects.

Major Accomplishments: The Clearinghouse, located in Lyon, France, continuously identifies and contacts new sources of epidemiology research project descriptions. Project descriptions are collected, edited, and published annually as the Directory of On-going Research in Cancer Epidemiology. This information is also provided on magnetic tape for entry into the CANCERPROJ database. Approximately 1,300 ongoing projects are listed in this Directory.

Significance to Biomedical Research and Program of the Institute: By serving as a resource for epidemiological data and establishing communication among epidemiology researchers worldwide, the Clearinghouse promotes international awareness and cooperation which contributes to more productive research in this area.

Proposed Course: This contract is being phased out. The scope of work will be performed through August 15, 1988.

Date Contract Initiated: February 25, 1975

Current Annual Level: This contract received no funding in FY 1986.

NANCY LOW AND ASSOCIATES INC. (N01-CO-54051)

Title: Technical Support Services for the Office of International Affairs (OIA),
National Cancer Institute (NCI)

Contractor's Project Director: J. Michael Cosgrove, Ph.D.

Project Officer: Mrs. Linda W. Blankenbaker

Objectives: This project provides a broad range of technical support to the cancer-related information collection and dissemination activities within the OIA.

Major Accomplishments: The contractor has designed new graphics for the covers of NCI scientific journals. This new theme has also been transferred to a new design for the ICIC promotional booklet which contract staff have edited and published. All arrangements for an exhibit presentation of NCI scientific products and services at the 14th International Cancer Congress (Budapest, Hungary) are being handled by the contractor. New exhibit materials have been prepared by contract staff. Attendance throughout the year at various medical meetings is facilitated through this contract, as well. Comprehensive editorial assistance has been provided to the Publications Branch. Supporting documentation for the request for OMB clearance of surveys was prepared and submitted to PHS following extensive NCI/NIH review and revision. The contractor has handled ever-growing correspondence on behalf of ICIC.

Significance to Biomedical Research and Programs of the Institute: This project makes available, as needed, personnel, expertise, and equipment for support in the areas of publications preparation, promotion of products and services, and scientific analysis. This support is essential to the fulfillment of the NCI mandate for rapid collection and dissemination of cancer research information.

Proposed Course: The present contract will continue to serve OIA through December 1989.

Date Contract Initiated: January 8, 1985

Current Annual Level: \$248,977

Title: Support of Activities of the USA National Committee for the International Union Against Cancer (UICC)

Contractor's Project Director: Ms. June Ewing

Project Officer (NCI): Dr. I. J. Masnyk

Objectives: This contract serves the dual purpose of: 1) providing for one representative body (acting on behalf of the various U.S. cancer organizations and foundations) to deal with issues and policies of the International Union Against Cancer (UICC); and 2) supporting Committee participation in the UICC-sponsored International Cancer Congress held every 4 years.

Major Accomplishments: Planning for the XIV International Cancer Congress to be held in Budapest, Hungary, in August 1986

Significance to Biomedical Research and Program of the Institute: This contract supports the representative body which develops and presents the issues and policies of the United States cancer research community to the UICC, and through support of the International Cancer Congresses, promotes the productive exchange of research information among researchers throughout the world.

Proposed Course: The scope of work under this contract will continue through January 15, 1988.

Date Contract Initiated: January 16, 1984

Current Annual Level: \$40,000

NATIONAL LIBRARY OF MEDICINE (Y02-CO-30708)

Title: Joint NLM/NCI Intra-agency Agreement

Contractor's Project Director: Mr. John Anderson

Project Officer (NCI): Dr. Dianne E. Tingley

Objectives: This agreement with the NLM provides for the generation, maintenance, and operation of the NCI databases and systems (PDQ, CANCERLIT, CANCERPROJ, CLINPROT) on the NLM computer, and for dissemination of information in these collections via the MEDLARS network to institutions and individual users.

Major Accomplishments: The NLM contributes cancer abstracts prepared for the MEDLINE database as a major component of the input for the cancer literature database, CANCERLIT. The NLM also maintains and updates the NCI online databases, including: CANCERLIT, containing over 525,000 abstracts of published literature; CANCERPROJ, containing 11,000 summaries of cancer research projects; and CLINPROT, containing 5,500 summaries of clinical protocols used in the treatment of cancer. In addition, the NLM maintains the PDQ database, which contains state-of-the-art information on the diagnosis, staging, prognosis, and treatment of over 80 types of cancer; 1,100 summaries of standard and investigational treatment protocols; and names, addresses and telephone numbers of 12,000 physicians and 1,500 organizations specializing in the treatment of cancer. All databases are updated monthly, with the exception of CANCERPROJ, which had been updated quarterly.

By special arrangement with the NLM, the PDQ database was made available on a round-the-clock basis as of January 1986. This should greatly facilitate access to PDQ by physicians and West Coast users, many of whom cannot conveniently use the database during standard eastern time working hours.

Significance to Biomedical Research and Program of the Institute: Through the MEDLARS system, users at more than 4,000 locations in the U.S. and 14 other countries may have rapid access to the cancer information stored in the CANCERLINE and PDQ databases. Physicians, researchers, and other health professionals use the information retrieved from searches of these databases to improve cancer patient care and design more productive research experiments.

Proposed Course: The intra-agency agreement will continue to provide the database input, maintenance, and dissemination services as described.

Date Contract Initiated: May 1, 1983

Current Annual Level: \$777,275

PAN AMERICAN HEALTH ORGANIZATION (NOI-CO-44030)

Title: Latin American Cancer Research Information Program (LACRIP)

Contractor's Project Director: Dr. Jorge Litvak

Project Officer (NCI): Dr. J. Wesley Simmons

Major Accomplishments: The contractor has supplied several hundred cancer-related articles and meeting abstracts from Latin America for inclusion in CANCERLIT. There is a steady input of summaries of cancer research projects and clinical protocols for inclusion into the NCI databases, CANCERPROJ, CLINPROT, and PDQ.

Significance to Biomedical Research and Program of the Institute: LACRIP is an important resource for the Office of International Affairs in that it supplies project descriptions, clinical protocols, and journal articles for the databases (CANCERPROJ, CLINPROT, and CANCERLIT) that would otherwise not be included, and provides a centralized mechanism for dissemination of cancer-related information to a large number of countries in Latin America.

Proposed Course: The scope of work will be performed until December 31, 1986, at which time phase out will be completed.

Current Annual Level: Contract received no funding in FY 1986.

SECOND FOUNDATION, INC. (NOI-CO-54055)

Title: Computer Support for Cancer Information Dissemination

Contractor's Project Director: Dr. Peter L. Walton

Project Officer (NCI): Ms. Mary Stram

Assistant Project Officer (NCI): Dr. Robert Esterhay, Jr.

Objectives: The purpose of this contract is to obtain computer support services for the ongoing maintenance of ICIC databases:

PHYSICIAN DATA QUERY (PDQ) contains data on prognosis, stage information, and treatment options for all major types of cancer. PDQ also contains the names, addresses, and telephone numbers of physicians and organizations that specialize in cancer treatment and all cancer treatment protocols supported by NCI and all voluntarily submitted protocols from cancer treatment organizations/institutions throughout the United States as well as foreign countries.

CANCERLIT contains over 460,000 citations and abstracts describing published results of cancer research projects.

CANCERPROJ contains descriptions of ongoing cancer research projects.

The contractor must also process and format technical publications: CANCERGRAMS, ONCOLOGY OVERVIEWS, and RECENT REVIEWS.

Major Accomplishments: The databases and publications described above have been regularly maintained and produced according to schedule. The PDQ cancerinfo file has been updated with changes to all state-of-the-art statements.

The PDQ directory file has been updated with current information concerning over 11,000 physician members of some 16 national cancer societies, 9 clinical trials groups, 60 community clinical oncology programs, and over 1,400 cancer care organizations. The physician members of 11 additional clinical trials groups will be completed this year.

The directory physician and organization mailers have been sent on a monthly basis (one-twelfth of the physician directory subfile) with a return rate of over 96% for physicians (organizations are not inactivated from the PDQ directory for nonresponse to update mailings).

The PDQ protocol file has been updated monthly with the addition of new protocols and deletion of closed ones. A special protocol file was created to rapidly disseminate protocol information between monthly updates to the various PDQ distribution systems. The addition of dose modification information as a PDQ protocol subfile will be completed this year. Completion of the input tape specifications and development work on the required programming and database changes to the PDQ production system have started. Draft integrated tape specifications have been completed and will be sent to licensed vendors for comments and finalization.

SECOND FOUNDATION, INC. cont.

Software enhancements were made to the PDQ production system electronic mail as well as electronic record keeping for immediate status of entry and updates to the PDQ directory. The PDQ cancer index file was modified to provide positional data for vendors who might wish to display two column menus to access the PDQ cancerinfo file. Software was modified to deal with update changes only for the PDQ protocol file resulting in a 70 percent reduction in processing time. In addition, new cancer terms were added to the PDQ cancerterm file to facilitate more efficient coding of protocols. Simplification of detailed cancer terms on protocols to broader (less detailed) family terms was accomplished by changing software to read both up (less detailed) and down (more detailed) the cancer classification network. This resulted in more efficient and accurate coding of protocols with cancer terms. Software enhancements were made to support retrievals of cancer classification network table names, with indication of level and printing of short name, synonyms, and included entities. Enhancements were also made to support complex/paired physician roles with regard to two organizations to handle indirect type affiliations.

The CANCERLIT database has been completely regenerated with up-to-date medical index terms (MESH) and chemical index terms, thereby facilitating online retrieval at the NLM.

The CANCERPROJ database has been updated with new projects and re-indexed with up-to-date medical and chemical terms. The database is now searchable using the 1986 MESH vocabulary.

Significance to Biomedical Research and Program of the Institute: The computer support provided by the contractor is of central importance to the entire spectrum of ICIC products and services. The effective treatment of cancer can be enhanced by dissemination of state-of-the-art treatment information. This will reduce the mortality of cancer through shortening the time lag involved in informing physicians of the latest treatment advances.

Proposed Course: Plans call for continuation of this contract through October 1, 1988.

Date Contract Initiated: November 1, 1984

Current Annual Level: \$1,491,808

TECHNICAL RESOURCES INC. (NOI-CO-44029)

Title: Cancer Information Processing for the PDQ Information System

Contractor's Project Director: Mr. James Pennington

Project Officer (NCI): Dr. Robert Esterhay, Jr.

Assistant Project Officer (NCI): Ms. Rita Burke

Objectives: The purpose of this contract is to provide personnel to perform data analysis and validation of source documents used to update the Physician Data Query database, which contains the names, addresses, and telephone numbers of physicians and organizations that have a special interest in cancer treatment. The contract also provides personnel to operate a government-owned computer system which generates distribution tapes of the PDQ database and documents used in the maintenance of PDQ.

Major Accomplishments: One-twelfth of the PDQ directory is now being analyzed, updated, and validated monthly, thereby providing ongoing maintenance of a reliable knowledge base information system. The contractor took over the mailing process of the PDQ directory update maintenance mailers that are sent each month to physicians and organizations. In addition, the Computer Communications Center produces and distributes the PDQ database to licensed network vendors.

Software retrieval modules have been developed to enhance quality control of the PDQ directory. The ability to retrieve physicians with associated organization locations and compare to participating organization locations where protocols are conducted provides increased level of quality control for both the Directory and Protocol files.

Significance to Biomedical Research and Program of the Institute: The operations support provided by the contractor is of central importance to the ongoing maintenance and distribution of the PDQ database, which is a key element in NCI's mandate under the National Cancer Act to "collect, analyze, and disseminate all data useful in the prevention, diagnosis, and treatment of cancer...."

Proposed Course: Plans call for recompetition of this contract through January 31, 1989.

Date Contract Initiated: Contract extension was awarded February 1, 1986.

Current Annual Level: \$228,198

UNION INTERNATIONALE CONTRE LE CANCER (UICC) (NOI-CO-65341)

Title: International Scientist-to-Scientist Information Exchange Program

Contractor's Project Director: Dr. Philip Selby

Project Officer (NCI): Dr. J. Wesley Simmons

Objectives: The purpose of this program is to promote direct and rapid person-to-person transfer of information about new or improved technology or methodology between investigators from different countries who are working in areas of basic, clinical, or behavioral research, in order to further the progress of cancer research.

Major Accomplishments: This contract promotes international cancer research collaboration by providing International Cancer Research Technology Transfer (ICRETT) awards which enable two cancer researchers from different countries to jointly carry out brief research projects. From the inception of this program through March 1986, 843 exchanges (average length of visit is three weeks) have been granted.

Significance to Biomedical Research and Program of the Institute: Scientists are afforded the valuable opportunity for on-the-spot collaboration necessary for comparing the results of parallel or related research and developing or improving techniques. These interactions frequently lead to continuing exchange of research information, which in turn leads to a more productive collaborative effort.

Proposed Course: This contract activity will continue at approximately the same level through March 1989.

Date Contract Initiated: December 4, 1975

Current Annual Level: \$110,250

UNION INTERNATIONAL CONTRE LE CANCER (UICC) (NO1-CO-75377)

Title: Liaison and Implementation Projects in Support of the NCI,
International Cancer Research Data Bank (ICRDB) Section

Contractor's Project Director: Dr. Philip Selby

Project Officer (NCI): Dr. I. J. Masnyk

Objectives: Through its Committee on International Collaborative Activities (CICA), the UICC provides liaison and implementation projects in support of the International Cancer Research Data Bank (ICRDB).

Major Accomplishments: This effort has resulted in collection and processing of summaries of over 6,500 ongoing cancer research projects. This information is made available worldwide through the CANCERPROJ database. This project has also resulted in the development of an International Cancer Patient Data Exchange System (ICPDES) whereby information covering the entire patient care spectrum is collected in an internationally standardized manner, with participation by 5 major U.S. and 11 foreign cancer centers.

Significance to Biomedical Research and Program of the Institute: CICA activities have been of major significance in making the ICRDB truly international in scope. Active efforts to establish liaison with and obtain data from cancer centers and individual investigators around the world have stimulated increased communication and cooperation among researchers, as well as more effective utilization of clinical and basic research data.

Proposed Course: The scope of work will be performed until March 31, 1987, at which time phase out will be completed.

Date Contract Initiated: April 1, 1977

Current Annual Level: This contract received no funding in FY 1986.

Title: Cancer Information Dissemination and Analysis Center (CIDAC) for Cancer Diagnosis and Therapy

Contractor's Project Director: Dr. Eugene McKelvey

Project Officer (NCI): Mr. Cecil W. Lee

Objectives: The CIDAC provides scientific input necessary to produce information products and services for cancer researchers, and provides guidance to the ICRDB Branch, in the area of cancer diagnosis, therapy, and rehabilitation.

Major Accomplishments: The CIDAC regularly produces 21 monthly CANCERGRAMs, current awareness bulletins containing abstracts of recently published literature. Five ONCOLOGY OVERVIEWS, retrospective bibliographies with abstracts concerning high interest topics in clinical cancer research, are published annually. This CIDAC performs custom searches of the CANCERLINE and PDQ databases in response to requests for information from physicians and other health care professionals; submits monthly Highlight Reports, pinpointing significant new developments in clinical cancer research; and assists in database quality control.

Significance to Biomedical Research and Program of the Institute: The CIDAC serves as a valuable resource for the NCI and the worldwide cancer research community in the area of oncology research. The CANCERGRAMs collectively provide comprehensive coverage of this entire field, quickly alerting researchers to new findings with minimal expenditure of effort, thereby allowing them more time for productive research. ONCOLOGY OVERVIEWS enable their readers to rapidly update their knowledge in emerging areas of research concentration, or provide state-of-the-art perspectives on major areas of treatment research.

Proposed Course: The contractor will continue production of CANCERGRAMs and ONCOLOGY OVERVIEWS and provision of information services. Ways will be sought to increase the utilization of CIDAC information retrieval and analysis services by government-sponsored review or policy-making groups, e.g., consensus development groups, focusing on clinical cancer research issues.

Date Contract Initiated: June 24, 1976

Current Annual Level: \$453,187

Equal Employment Opportunity Office (EEO)
Office of the Director
National Cancer Institute

Summary Report

October 1, 1985 through September 30, 1986

The fourth annual Federal Equal Opportunity Recruitment Program/Affirmative Action Plan (FEORP/AAP) assessment report was prepared and distributed during the month of April 1986.

The Federal Equal Opportunity Recruitment Program (FEORP) Plan for Disabled Individuals and Veterans is in its third year of implementation. NCI has employed several handicapped individuals under the volunteer program. Over the past three fiscal years, the EEO office has employed handicapped student volunteers from the Walter Johnson High School in Bethesda, Maryland. In December 1985, the EEO office brought a young woman on duty from Project LINK which is affiliated with Mainstream, Inc.

The EEO staff attended several seminars and conferences throughout the year: The Third Annual Federal Government Cooperative Education Conference; The Forty-Third Joint Annual Meeting of the Institute of Science Beta Kappa Chi Scientific Honor Society and the Brookhaven Semester Program; National Indian Health Board Conference; The 14th Annual Minority Biomedical Research Symposium (MBRS) in New Orleans, Louisiana. While attending some of the above conferences, several minority educational institutions were visited for recruitment efforts.

The NCI's Periodical Recycling Program was expanded to include four secondary schools in the District of Columbia and one foreign institution located in Nigeria. Originally the periodicals were only being distributed to the historically black institutions and educational institutions with high concentrations of Hispanics, Women and American Indians.

The EEO staff arranged for several tours to be conducted in the laboratories for visiting college students throughout the year. The EEO staff participated in several career days, conducted seminars for Support Staff Week and the Women's Seminar Series.

OFFICE OF ADMINISTRATIVE MANAGEMENT
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE

Program Activities Report
October 1, 1985 - September 30, 1986

The Office of Administrative Management (OAM) coordinates and manages all administrative activities of the Institute and is headed by the Associate Director for Administrative Management who also serves as Executive Officer. The Office is composed of seven branches: (1) Administrative Services Branch; (2) Extramural Financial Data Branch; (3) Financial Management Branch; (4) Grants Administration Branch; (5) Management Analysis Branch; (6) Personnel Management Branch; and (7) the Research Contracts Branch.

Some notable activities of the OAM during the Fiscal Year 1986 include:

The Office of Administrative Management in conjunction with the Institute as a whole was required to effect significant personnel reductions. This has been achieved through attrition. A number of initiatives involving computerization of administrative activities were put on a faster track to try to maintain the same level of service. Some activities performed by government staff were contracted out.

New training programs in the administrative field have been developed and old ones renewed to assure the continuous availability of high quality staff to fill vacancies. These training programs and careful selection practices have been instituted to assure the highest quality personnel selection to overcome shrinking manpower resources.

All OAM branches are developing short- and long-range goals to initiate a more formalized planning process. Resource requirements and barriers will be identified as a part of this activity. It is anticipated that these measures will integrate initiatives between current and future goals and will result in a master plan for the Office of Administrative Management.

The achievements of the individual branches of the Office are described below:

Administrative Services Branch (ASB)

The ASB serves as the Administrative Office for all of the components of the Office of the Director, including the Office of Administrative Management, Office of Cancer Communications, Office of International Affairs, and the Office of Program Planning and Analysis. It is responsible for office services, property management, mail and files, international travel, domestic travel policy (including the annual travel plan for the Institute), and space management. ASB serves as the NCI coordinating point for cross-cutting administrative issues.

- Automated FTE Tracking System: The Branch implemented an automated FTE tracking system for the OD. This system will assist the administrative staff in maintaining current FTE data through the use of personal computers.

- Personnel Document Checklist: ASB was represented on a committee to update and assemble the NCI Personnel Checklist to expand the information provided for staff as well as include samples and update current information on the preparation of personnel documents within the Institute.
- Express Mail: The Branch served as the Institute's coordinating office for the reconciliation of outstanding unpaid express mail invoices.
- Sexual Harassment Seminar: The Branch assisted with the preparations for an OPM seminar concerning issues relevant to sexual harassment in the workplace.
- Office of the Director Suite Renovations: ASB was responsible for monitoring the progress of the renovations and resolving any administrative issues that occurred.

Extramural Financial Data Branch (EFDB)

EFDB is responsible for maintaining grants financial data, performing the analyses necessary to provide funding guideline recommendations, preparing budgets and advice on grants financial policy decisions, and for making grants financial data available to requesters. In addition, EFDB monitors the Contracts Management System (CMS), Pre-Award Tracking System (PATS), and Contracts Administration System (CAS) in order to provide information system services for program, review, and contracting staff.

- Extramural Financial Data Book: A revamped edition of the Extramural Data Book was begun in FY 1986. The new edition now includes contract information. Listings were produced on the mainframe computer; summary tables were developed as IBM-PC spreadsheets which allowed greater ease in updating and made it feasible to produce certain historical and analytical tables for the first time.
 - Grants Budgeting System: With the assistance of a contractor, a redesign of the grants budgeting system using PC's and RBase 5000 was initiated. The new system allows each analyst to update his/her own programs directly and provides increased flexibility in producing and modifying reports.
 - Contracts Management System: Documentation, training of users, and enhancements to the new system were the foci for 1986. Users such as NCI administrative offices gained direct access to the CMS with full screen editing for the purposes of updating and producing reports. Contract information in IMPAC was electronically updated by the Research Contracts Branch (RCB) to reduce time and increase accuracy in previously manual update procedures.
- EFDB worked with RCB to automate the NCI Tracking System which consists of a variety of systems used by RCB in the contracting process.

- Personal Computers: The use of spreadsheet programs enabled EFDB to analyze grant budget and funding data in new and useful ways, and to produce and update detailed data forms for major grant programs which was far too cumbersome before the advent of PC's.
- A one-to-one user-PC ratio was achieved and plans were made for an FY 87 network which will allow multi-user access and permit sharing of files and "peripherals" such as laser printers, plotters, and Bernoulli boxes.
- Menu-driven Access: Access to DRG Systems such as snapshots, labels, and specialized reports, through WYLBUR, allowed non-programmers greatly increased capabilities in data-retrieval and manipulation. Installation of an electronic version of the NIH phone directory on WYLBUR coupled with several EFDB-developed command procedures further simplified the production of labels and maintenance of directories.

Financial Management Branch (FMB)

The FMB serves as principal advisor to the Institute in the financial management aspects of the planning, formulation, execution and evaluation of its programs. It collaborates with the Office of Program Planning and Analysis in the development and coordination of the National Cancer Plan with the budget process, and monitors the execution of the Institute's financial management program.

- Office Computerization:

- The initial installation of a local area network (3COM) has been installed along with several software packages including Wordperfect. This network will enable all staff members to utilize common spreadsheets thereby ensuring greater efficiency and accuracy of data.
- Developed a computerized capability to calculate the impact of funds reallocated on budget mechanisms. Such a capability permits NCI management to quickly ascertain the impact of proposed fund reallocations.
- FMB continued the augmentation of both FTE and personal services forecast applications. The current system has been developed for a simplified worksheet that is adaptable at the Division level.

- Other Special Projects:

- Various analysis of historical budget data has been performed which assist NCI management in budget allocation. Included was data relevant to NCI's contribution to central NIH allocations.
- Provided approximately 2,500 acknowledgment letters relating to contributions to the NCI Gift Fund.

Grants Administration Branch (GAB)

The GAB performs all business activities attendant to the administration of NCI grant and cooperative agreement programs. It participates with the Division Directors and their staffs in the formulation and execution of grant policy, develops the Institute's position on grant and cooperative agreement management issues and negotiates the amount of awards. During FY 86, the NCI issued approximately 6,200 award notices for 4,000 grants and cooperative agreements totaling \$775 million.

During this fiscal year, GAB experienced an unusual reduction in personnel. This resource loss generated a number of actions intended to uphold the level of Branch services, with fewer people to do the job.

- Interleukin 2 Trials Funded: In order to quickly broaden the research effort in the newly promising adoptive immunotherapy using interleukin 2, which was developed at the NCI, the GAB, in an extremely short time and with concerted staff effort, was able to make awards for six medical centers to begin treating advanced cancer patients. The funds committed to the total project period were almost \$3 million.
- NCI Outstanding Investigator Grants (OIG): In response to the first OIGs awarded last year, several OIG recipients have indicated their enthusiasm because the OIG grants have 1) freed-up much of the PI's time previously spent writing grant proposals, 2) provided stability along with long-term support, and 3) provided increased research flexibility.

In FY 86, GAB issued more than 20 new (type 1) OIGs in addition to awarding 23 noncompeting continuation grants. GAB staff, as part of the OIG Working Group, were active in the formulation of the revised OIG Operating Guidelines, and in bringing issues requiring additional clarification/consideration to the attention of the NCI Executive Committee.

GAB continues to provide guidance to OIG applicants and grantee institutions with regard to the OIG program and policies including the specific procedures to follow to bring about automatic carry overs of grant funds.

- Minority Programs: The NCI Minority Investigator Supplement (MIS) and the Minority Satellite Supplement (MSS) programs have been in existence for little over one year. There are eight active MIS awards and four MSS awards. The programs, although in their early stages, are proceeding quite well.
- Grants Policies: A major effort was undertaken to develop new or revise and update existing NCI grants management policies. In addition to their regular workloads, specialists began the writing of over 30 policies and guidelines. The following were completed and issued during this year:
 - GAB 1.22 - Managing Awards to Federal Agencies and Government-Owned, Contract-Operated Facilities

- NCI 5.00 - Conference Grant Applications - Review and Funding
 - NCI 3.20 - Foreign Awards, Awards with Foreign Components and Foreign Travel
 - GAB 1.30 - Review and Administration of Requests for Applications (RFAs) and Program Announcements (PAs)
 - NCI 4.09 - Awarding Phaseout and Interim Support
 - NCI 3.12 - Concurrence Memoranda
 - NCI Grants Management Advisory No. 6 - Withholding of Support, Suspension, and Termination
 - NCI Grants Management Advisory No. 7 - Review Status and Future Handling of Grants Selected for One Year of Funding During FY 85.
- Workload Redistribution: In order to better equalize grant workloads throughout the year, especially in the fourth quarter, GAB developed and submitted to the NIH and PHS plans for redistributing award starting dates. This proposal aims at alleviating the severe strain placed on staff during periods of peak application submissions and award issuances.
 - Board Letters Contracted Out: Following each meeting of the National Cancer Advisory Board during which grant applications are reviewed, GAB, using a computerized program, produced letters notifying applicants of the results of the dual review process and the probable funding status of their application. Due to staff decreases in the GAB Grants Processing Section, this function of producing and mailing some 3,700 letters annually was converted to a contract operation, freeing GAB staff for the critical work of issuing timely awards.
 - Program Staff Orientation: GAB continued its well-received series of orientation seminars for recently appointed program staff. Representatives from review, program, and grants management areas participated in the presentations and the Associate Director for Administrative Management described the role of the NCI Executive Committee in funding decisions. The sessions were designed to provide an overview of the roles of NCI's extramural components and how they interact to serve the grantee community and effectively administer funded projects.
 - Computerization: Following a multi-stage implementation plan, selected grants management specialists began using personal computers to handle various tasks associated with the negotiation and awarding of grants and cooperative agreements, e.g., reconciling grant budgets, calculating future support, and accessing DRG files to check investigators' records of NIH support and the status of pending and active awards. Additional specialists will be trained in these applications until all are capable of performing these tasks with the computers.

- Records Management Center (RMC): The GAB received numerous calls and requests for tours of the newly designed and reorganized NCI Records Management Center since its opening in late FY 85. The contractor's corporate officers were asked by the National Archives Records Administration (NARA) to prepare a tutorial presentation on the 3-media (paper-based and microfiche records, computerized file tracking) approach to records management used in the RMC. The presentation was included by NARA in the Federal Computer Systems Expo in Washington, D.C. in July. The PHS Grants Management Officer obtained copies of the NCI records management procedures for disseminating to other PHS agencies and Regional Offices which have record keeping responsibilities.

The RMC converted a total of 1,700 NCI Official Grant Files to microfiche records. The files average 130 pages each. The microfiche files provide a permanent, easily duplicated, and space-saving mechanism for maintaining NCI's official files.

Management Analysis Branch (MAB)

The MAB serves as a staff resource for the Institute providing advice and guidance on the administration and management of the NCI. Specific areas of activity include providing advice on the development, implementation and interpretation of policy and regulations; performance of management studies and surveys; analysis of organizational proposals and provision of advice on organizational structure and the preparation of special analyses and reports on the administrative aspects of Institute operations or programs.

● Special Projects and Analyses:

- A handbook outlining the administrative procedures for managing the National Cancer Institute's Summer Training Program (STP) was developed. The handbook was distributed to the OD and Division Administrative Offices, Personnel Management Branch, and the Equal Employment Opportunity Office. The STP was designed to provide training to qualified students interested in biomedical research.
- MAB was responsible for coordinating the efforts of an NCI Task Force charged with the development of a resource document which describes available NIH/NCI non-FTE mechanisms. The document provides matrix charts which compare the similarities, differences and requirements of each mechanism. It also highlights the policies and procedures that distinguish each mechanism. The document serves as a reference guide for NCI administrative staff and the personnel office.
- Researched the issue of the authority of the Director, NCI, to accept voluntary and uncompensated services resulting from a revision of the Public Health Services Act, i.e., the Health Research Extension Act of 1985 (P.L. 99-158). Based on the research performed, a new Delegation of Authority on Requests for Use of NIH Research and Medical-Care Facilities was prepared, signed and distributed.

- MAB coordinated many of the administrative details for the initiation of the NCI Productivity Improvement Program. The MAB served as NCI liaison in handling announcements, answering questions, and consulting with the Division of Management Policy on NIH-wide aspects of the program. It also served as Executive Secretary for the NCI Steering Committee.
- MAB has undertaken a review of the revised NIH Delegations of Authority (more than 100 delegations) in order to ascertain where the NCI might need to implement delegations of its own. This will be a lengthy process that will probably result in the issuance of multiple NCI delegations of authority.
- MAB provided advice and assistance to the NCI Working Group charged with the responsibility of developing an Institute-wide policy concerning the potential usefulness of the National Death Index to both current and future NCI investigators.

- Management Studies:

- Worked on Phase 1 of a study of the Division of Extramural Affairs. Study emphasis in this phase was on Committee Management operations. Performed analysis and prepared workflow charts.
- Provided assistance to top management on the consolidation of NCI's Laboratory Animal Research programs. MAB collected and summarized statistical data and assisted in the administrative aspects for centralization of animal care activities under the Office of the Director, NCI. These activities ensured the following: standardized level of animal care; compliance with AAALAC standards; and more efficient use of animal facilities and animal care manpower resources.

- Special Reports:

- Prepared the NCI FY 86 Consultant Service Plan which this year required several informational memos to staff to keep them apprised of changing definitions.
- Prepared and submitted to NIH the annual OMB Information Collection Budget Request on all proposed NCI information collections for FY 87.
- Collected background information, edited and produced the FY 85 Report on Administrative Accomplishments which highlights the Institute's many noteworthy achievements in the area of administrative management.

- Organization Changes:

- Provided input on several proposed organization changes and reviewed and processed 30 changes including a major reorganization of the Developmental Therapeutics Program, DCT.

- Information Collection from the Public:

- Provided advice and guidance to NCI program staff on proposed information collections from the public. Eighteen OMB requests were reviewed and submitted to PHS/OMB for approval.

- Manual Issuances: Prepared and distributed the following policy issuances for the NCI Manual. The Delegations of Authority were on:

- Shipment of Materials Worth \$100 or Less.
- Personnel Nos. 8, 9, 16 and 17.
- Request for Use of NIH Research and Medical-Care Facilities.

Personnel Management Branch (PMB)

The PMB provides central personnel management services for the NCI including policy development, training, work force planning, recruitment, employee development, salary administration, and equal employment opportunity (in collaboration with the NCI EEO Coordinator).

Significant managerial accomplishments are itemized as follows:

- Staffing Activities:

- A Clerical Development Program was developed and established to help meet critical Institute needs for clerical and secretarial support personnel. The program was designed to allow the staffing office to make direct commitments to candidates. The candidates then participate in an intensive, well-structured orientation and training program. Recruitment visits were made to business, secretarial and other academic institutions, including: Hagerstown Business College; Chesapeake Business Institute; and Strayer College. As a result, seven individuals were selected for placement in the program.
- Three Cooperative Education Program positions were filled, including a Personnel Management Intern, an Administrative Management Intern, and a Computer Specialist Intern.
- PMB assisted in the identification and development of special programs utilized as hiring mechanisms for the Summer of 1986. These included: Summer Training Program; Summer Aid; American University Summer Research Program; Kathrine Dulin Folger Summer Scholarship Program; the Montgomery College Summer Youth Employment and Training Program; and the D.C. Summer Youth program.
- The NCI Administrative Career Development Program continued with the permanent placement of three interns. Also, two new trainees were selected from almost 100 applications. A large portion of the NCI administrative staff participated in a simplified recruitment process. Their contributions during the recruitment process demonstrated once again their commitment to the program.

- Networking activities have been actively pursued with minority institutions and professional societies to increase the representation of minorities, women, and handicapped individuals at NCI. Emphasis is currently being placed on recruitment activities for Hispanics.
- Two informational brochures for the Stay-In-School Program were published. One is used for recruitment purposes. It provides information about the program and the minimum eligibility requirements. The other brochure is given to new program participants. It provides them with information about performance, leave, and requirements for maintaining eligibility in the program.
- Exit interview procedures were established to obtain and provide accurate data and detailed information on retention and recruitment of NCI staff in selected job series.
- The PMB developed a methodology called KSA (Knowledges, Skills, and Abilities) which was used as a basis for the final approach selected by the Division of Personnel Management for application NIH-wide.
- A Team Supervisor served as one of two NIH representatives on an OPM-directed Interagency Task Force dealing with the problems caused by the shortage of clerical candidates throughout the Federal service. The Task Force developed recommendations for: (1) improving the quality of candidates; (2) increasing the number of quality candidates; (3) organizing networking among agencies; and (4) creating a positive work environment.

● Position and Pay Management:

- A Position Description/Position Management Information System (PD/PMIS) has been designed to assist the Personnel Management Branch, administrative staff, managers and supervisors in controlling and managing established positions. Through use of this automated system, faster and more efficient services will be provided in position classification and management. This system serves as a resource for creating, modifying, abolishing and reestablishing position descriptions; preparing and conducting position classification and management reviews; assessing internal classification workload; and generating a variety of classification activity reports. This system also will be used in conjunction with other automated personnel systems being developed within the Department (i.e., CLIP, IMPACT).
- A Seminar on Position Descriptions was designed and conducted by PMB Personnel Specialists for DCPC supervisors and administrative staff. The basic information in the Seminar was supplemented with two films, one on Position Management and one on Classification. Additionally, a Supervisor's Guide for preparing position descriptions was developed to supplement the information provided during the Seminar. The Guide was distributed NCI-wide.

- Training:

- For almost a year, the Training Office participated in a Department project to automate the HHS-350, Training Nomination and Authorization Form. Current plans are for the Department contractor to develop a prototype automated system which NCI will implement and test. Department-wide implementation of this system is anticipated by October 1987.
- All PMB staff members received intensive training in computer literacy. A PMB Lead Users Group was established and is scheduled for intensive training in DOS and D Base III.

- Personnel Operations:

- PMB continued to participate in planning for implementation of the Department's improved personnel/payroll system (IMPACT). The Personnel Officer served on an NIH Committee and one PMB staff member served on an HHS work group which prepared the User's Manual for the system. Implementation is scheduled for 1987.
- An SF-52 automated Tracking System was developed and implemented by one PMB Team. This system allows Administrative Officers to review the status of a Personnel Action at any time and to print-out a complete status report on actions in process. The system also serves as a useful tool for measuring personnel activity.
- Five IBM personal computers were installed in PMB. The Personnel Officer has established an internal Lead User Group which has responsibility for identification and development of high priority applications.

Research Contracts Branch (RCB)

RCB participates in developing policies on Institute research contract programs; develops guidelines, procedures and controls to promote compliance with policy and sound contracting practices; provides contract management services for all Institute research contracts; and implements automated Institute contract management information systems.

- Recompetition for Frederick Cancer Research Facility (FCRF): The recompetition for the FCRF was initiated in early FY 86 and will continue until late FY 87. The contract(s) will be awarded for the operation of the center for seven years. The aggregate value for the one-to-five contracts is estimated to be in excess of \$500,000,000. The FCRF is the only authorized Federally Funded Research and Development Center in the HHS and represents the single largest acquisition project within either the NIH or the PHS.

- EEO/Project Officers Compliance Check - Pilot Test: During FY 86, the RCB concluded a pilot test which involved trying to improve the response rate from principal investigators on acknowledgement of their EEO responsibilities. During an NCI pilot test which was conducted over a three-month period, 326 principal investigators were notified of their EEO responsibilities. A written acknowledgment was received from each principal investigator. This successful response rate was the result of a very active follow-up conducted by RCB staff. Practically all documentation was computer generated. In the future, all follow-up tracking could be maintained on a personal computer. The results of the NCI pilot test were presented to the NIH Research Contracting Committee. The NCI recommended that this process be implemented NIH-wide as a productivity improvement. The recommendation is currently being reviewed and considered by NIH.

- Training: Due to the lack of formal training courses offered by the Department this year and an assessment of RCB training needs, a series of seminars were planned and conducted in FY 86. These included:

- Functions of the Division of Financial Management, Assistance Accounting Branch
- ADP Aspects of Contracts
- Patent Rights and Patent Clauses
- The Peer Review Process - A round-table discussion between NCI/DEA and RCB staff
- Fee and Profit on Contracts - Understanding and planning a negotiation strategy
- Contract Procedures for Procurement Assistants
- Seminars on the Source Evaluation Group (SEG) Process for NCI Divisions

All of the above seminars were done at no cost to the NCI because they were conducted by either RCB or NIH staff. Also, RCB contracted with OPM to present a seminar to all Branch staff on Sexual Harassment.

- Automated Systems: RCB uses several automated systems to assist in the management and accomplishment of contract related responsibilities. These systems deal with the pre- and post-award functions and also with contract management information. Currently, the systems are supported under an NCI contract, but as a result of system enhancement and available technology, it appears it would be more efficient and cost effective if they were brought in-house. This year we intend to implement an approach where the pre- and post-award system will be updated through a modem on a PC. Implementation of this approach will do away with the need for a contractor to input to the system for a hard copy. The management information system will be updated in the same manner. This will permit the transmission of the data directly to DRG for input in the Department data base.

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OFFICE OF CANCER COMMUNICATIONS
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE

Program Activities Report
October 1, 1985 - September 30, 1986

The National Cancer Act Amendments of 1974 require that the "Director of the National Cancer Institute (NCI) shall provide and contract for a program to disseminate and interpret on a current basis for practitioners and other health professionals, scientists and the general public, scientific and other information respecting cause, prevention, diagnosis and treatment of cancer." The Office of Cancer Communications is a major source of information for the public (including cancer patients and people at risk of developing cancer), and a substantial source for health professionals. It carries out traditional communications support activities for NCI. Within the National Cancer Program, it assumes the role of coordinator of cancer communications, and develops new initiatives to help meet responsibilities stemming from the Act, to provide the public and health professionals with useful information about cancer.

OCC's traditional activities include responding to press inquiries; preparing news releases, press summaries, announcements, and background statements for use by the press; and assisting in press room operations at major cancer-related scientific meetings. The OCC develops reports and publications, speeches and congressional testimony, reports required by law, special reports for the byline of NCI's Director, and a wide variety of publications and audiovisual materials for public and professional audiences.

The OCC develops exhibits aimed primarily at health professionals and scientists. They are used at scientific and professional meetings each year, and provide audiences with information on cancer and how to tap resources available through NCI and other organizations.

The office also responds to public inquiries: those requiring both customized and non-customized written responses, and controlled and congressional inquiries. The office distributes publications, and replies to inquiries by regular telephone and to a special toll-free number.

OCC maintains awareness of communications activities of all participants in the National Cancer Program, assuring that there is a minimum of unneeded duplication, and identifying and filling gaps in communications programming.

OCC's approach to information dissemination is to reach out to target audiences through intermediary groups which have best access to the chosen audiences. The types of intermediary organizations with which OCC is involved are: cancer related (cancer centers, cancer societies); non-cancer related (fraternal organizations, medical societies, community groups, etc.); and the mass media. Major organized dissemination projects are under way in the areas of cancer prevention awareness, breast cancer information, coping with cancer, and special (minority) audiences. Other areas of special emphasis are: (1) pretesting and evaluation of all communications projects; (2) support for 22 Cancer Information Service offices located around the country; and (3) an internship program for graduate students in journalism, communications, etc.

As part of the development of needed communications resources, OCC sponsors a six-month graduate internship in health communications. Outstanding graduate students are selected for varied communications appointments involving science writing, information sciences and health education, and program administration. Interns are assigned to work with professional staff and are given writing, editing and a variety of other technical tasks. Interns are encouraged to participate in a seminar series and to develop special projects during their term.

J. Paul Van Nevel is the director of OCC, and Gertrude Anthony serves as secretary.

INFORMATION PROJECTS BRANCH

The Information Projects Branch (IPB) is responsible for designing, implementing, and evaluating programs to disseminate cancer information. As such, it has undertaken a variety of projects to reach various target audiences with specific health messages.

Cancer Prevention Awareness Program

The Cancer Prevention Awareness Program is a major effort to increase public awareness of the possibilities for cancer prevention, presenting a challenge to the American people to learn what they can do every day to control their own cancer risks. Based on the most recent scientific information related to cancer and prevention, the program offers specific tips for individual action.

Objectives of the program are:

- To improve public attitudes regarding cancer incidence, treatment and prevention;
- To improve public awareness and knowledge of cancer risks and of individual actions that control some of those risks; and
- To encourage individuals to adopt healthy behaviors to reduce their cancer risks.

Messages: The program theme, "CANCER PREVENTION--The News Is Getting Better All the Time," encourages optimism. Messages emphasize personal control, explaining that individuals can take steps every day to control their own cancer risks. These steps are:

- Don't smoke or use tobacco in any form.
- Eat foods high in fiber and low in fat.
- Include fresh fruits, vegetables, and whole-grain cereals in your diet.
- Health and safety rules of your workplace should be known and followed.
- Avoid unnecessary X-rays.
- If you drink alcoholic beverages, do so only in moderation.

- Avoid too much sunlight; wear protective clothing; use sunscreens.
- Take estrogens only as long as necessary.

Scope of Program: The program is being implemented in two phases. Phase I relies primarily on mass media efforts to create awareness of prevention messages and to encourage people to learn about cancer prevention from a free NCI booklet available by calling 1-800-4-CANCER, the NCI Cancer Information Service. NCI is identified as a credible source of cancer risk information. Health professionals will be urged to discuss cancer prevention with their patients. In Phase II, the program emphasis shifts from the general public toward populations at greater than average risks, such as smokers and black Americans. Information and education efforts utilize both health professionals and representatives of civic, religious and other national and community-based organizations that represent the interests of the target groups.

In Fiscal Year 1986, the Cancer Prevention Awareness Program developed four major program areas: Tobacco Education Program; Nutrition Education Program; Cancer Prevention Awareness Program for Black Americans; and Community Programs. Each program area involves an intensive planning phase, program implementation phase, and evaluation.

Tobacco Education Program: The Tobacco Education Program is presently engaged in five major projects.

1. Promotion of a smoking cessation kit for physicians and dentists, in cooperation with the American Dental Association, the American Medical Association, and other groups.
2. Promotion of a smoking cessation kit for pharmacists, in cooperation with the American Pharmaceutical Association. The program was launched with a press conference in June 1986.
3. Smokeless Tobacco Education Project, in cooperation with the National Association of Secondary School Principals, National Association of Elementary School Principals, Centers for Disease Control, and other Federal agencies.
4. Public Information and Education Project, in cooperation with the Office on Smoking and Health, and the Cancer Information Service offices.
5. The Health Professionals Education Program includes two principal projects:
 - a. A smoking cessation project for physicians and dentists, in cooperation with Roswell Park Cancer Information Service.
 - b. A training manual for physicians in smoking cessation, in cooperation with the Center for Health Education.

Nutrition Education Program: The Nutrition Education Program presently comprises three principal projects:

1. Public Information and Education Program (which promotes the Diet, Nutrition and Cancer Prevention booklet).
2. A cooperative research effort between the Office of Cancer Communications, the Division of Cancer Prevention and Control, and Giant Food, Inc.
3. A nutrition television module to be used by the Cancer Information Service for media placement.

The Office of Cancer Communications currently is developing plans to extend the Nutrition Education Program beyond these initiatives, with special attention on intermediary development and targeting health professionals.

Cancer Prevention Awareness Program for Black Americans: In 1984, the Office of Cancer Communications engaged a committee of experts to develop a plan for a Cancer Prevention Awareness Program for Black Americans. Dr. Lee Monroe, formerly Executive Vice President of Shaw University, chaired the planning committee and offered recommendations for targeting black Americans. From this committee, a program advisory group was established.

On May 30, 1985, the Cancer Prevention Awareness Program for Black Americans was launched at a press conference and luncheon in Detroit. Leaders in the black community, as well as members of key national organizations, historically black colleges and universities, medical colleges, business, industry, and other groups were invited to unite with the National Cancer Institute in a Joint Health Venture.

Since the kickoff, a number of activities and projects have been undertaken:

1. NCI distributed 450 television public service announcements, featuring Aretha Franklin, to the 50 top markets. In early June, 1,300 radio public service announcements (PSA's), featuring 7 CBS recording artists, were also distributed.
2. NCI provided 750 print media kits to major daily newspapers, black publications, leading consumer magazines, and all health and science reporters.
3. Press releases were mailed to 885 black newspapers and publications, 520 radio stations and 160 TV stations.
4. The National Cancer Institute is working cooperatively through the Joint Health Venture with many national black organizations. An excellent example of cooperation has been provided by the National Medical Association (NMA). The NMA has cooperated in a mailing to its membership and has passed a resolution to work with NCI on the Joint Health Venture. NMA has committed physician involvement in support of the local projects.
5. The National Cancer Institute has produced a videotape featuring Drs. LaSalle Leffall, Claudia Baquet, and Walter Faggett, and Mel Blount of the National Football League. The videotape is being used by intermediaries for developing community programs.

6. In cooperation with the American Association of Retired Persons and the National Football League, a public service announcement, featuring Roosevelt Grier, was produced and distributed.
7. In FY 86, the Office of Cancer Communications has undertaken an integrative approach for development of the Cancer Prevention Awareness Program for Black Americans. National organizations of the Joint Health Venture are being aligned with community groups. For example, in Detroit, the National Association for the Advancement of Colored People is serving as the lead agency for community programming. In the State of North Carolina, the Shriners will serve as the primary channel for information and education projects. In Washington, D.C., the National Council of Negro Women and Black Churches will work cooperatively with the American Cancer Society to deliver cancer prevention messages. In Atlanta, NCI, CDC, Emory University, and Morehouse Medical School will work cooperatively to develop a community-based project. In Northern Louisiana, Grambling University, a historically black college, will develop a rural project. In all areas, the National Football League is assisting with media efforts and the National Medical Association and the National Black Nurses Association are developing medical care and services.

During FY 86, working groups convened to strengthen linkages with the Cancer Information Service, black colleges and universities, and black churches, and to extend the Cancer Prevention Awareness Program for Black Americans to other communities.

General Prevention Awareness:

The General Cancer Prevention Awareness activities have focused on producing "tools" to be used by organizations interested and involved in cancer prevention. Among these are:

- A catalog of NCI prevention materials
- Periodic UPDATE's--memoranda to Partners in Prevention
- Speaker's kit
- Resource directory

Breast Cancer Education Program

The goal of the Breast Cancer Education Program is to improve public knowledge, attitudes, and practices related to breast cancer in order to:

- Increase detection practices, including:
 - Instruction in breast self-examination (BSE) techniques by health professionals;
 - Thorough monthly breast self-examination;
 - Routine breast examination by a health professional; and

-- Mammography when recommended and appropriate.

- Reduce delay in seeking medical consultation for breast cancer symptoms.
- Improve the ability to deal effectively with the medical and psychosocial aspects of breast disease should a symptom be discovered.

The program is aimed at all women over age 18. Program materials are prepared and tested especially for women at increased risk to breast cancer and women who tend to have lower levels of knowledge about the subject. Individual programs are based on extensive evaluation of previous breast cancer education programs; results of NCI's national survey of public knowledge, attitudes, and practices related to breast cancer; and careful pretesting among target audiences.

Public education programs and materials:

Breast Cancer: We're Making Progress Every Day. This public education program is designed for use by businesses, service clubs, religious organizations, unions, and other interested groups. Program materials include:

A slide/tape or videocassette program providing an overview of the progress being made in breast cancer detection, diagnosis, treatment, and breast reconstruction; a pamphlet, Breast Cancer: We're Making Progress Every Day, for each member of the audience which summarizes the information contained in the program and contains step-by-step instructions on how to perform BSE; two posters for display; a "User's Guide" to help those organizing the program; a print ad featuring movie critic Gene Shalit's review of the program; and the Breast Cancer Digest.

Breast Exams: What You Should Know. Describes a variety of breast cancer screening methods including physical examination, mammography, and breast self-examination (BSE). Also available in Spanish.

Questions and Answers About Breast Lumps. Discusses some of the most common noncancerous lumps, diagnostic procedures, treatment, and cancer risks.

If You've Thought About Breast Cancer. Written by Rose Kushner, this booklet contains information about symptoms of breast cancer, detection diagnosis, treatment, rehabilitation, breast reconstruction, and other information helpful to breast cancer patients and their families.

Breast Cancer: We're Making Progress Every Day. Summarizes current information about breast cancer, including risks and signs of the disease; mammography, biopsy, and treatment options; breast reconstruction; and rehabilitation. An illustrated guide for BSE is also included.

What You Need to Know About Cancer of the Breast. This pamphlet discusses symptoms, diagnosis, rehabilitation, emotional issues, and questions to ask a doctor.

Breast Cancer Patient Education Series. To help meet the information and education needs of breast cancer patients and their family members, NCI developed a sequential, 11-unit series of patient education materials. The

series is designed to follow eight critical intervention points when information most often helps the patient: breast evaluation, biopsy, primary treatment, adjuvant therapy, follow-up care, breast reconstruction, recurrent disease and advanced disease. The series consists of the following materials:

1. Breast Exams: What You Should Know.
2. Questions and Answers About Breast Lumps.
3. Breast Biopsy: What You Should Know--Discusses the one- and two-step procedures, what to expect in the hospital, awaiting the diagnosis, and coping with the possibility of breast cancer.
4. Breast Cancer: Understanding Treatment Options--Summarizes the biopsy procedure, types of breast surgery (giving advantages and disadvantages for each), radiation therapy as primary treatment, and making treatment decisions.
5. Mastectomy: A Treatment for Breast Cancer--Presents information about the different types of breast surgery, what to expect in the hospital, during the recovery period, and coping with having breast surgery. BSE for mastectomy patients is also described.
6. Radiation Therapy: A Treatment for Early Stage Breast Cancer--Discusses the treatment steps (lymph node surgery, radiation therapy, and booster radiation); possible side effects; precautions to take after treatment; and emotional adjustment to having breast cancer.
7. Adjuvant Chemotherapy: A Breast Cancer Fact Sheet--Describes the drugs, treatment plan, side effects, and outlook for breast cancer patients receiving this form of treatment.
8. After Breast Cancer: A Guide to Followup Care--For the woman who has completed treatment, this booklet explains the importance of continuing BSE, regular physical exams, possible signs of recurrence, and managing the physical and emotional side effects of having had breast cancer.
9. Breast Reconstruction: A Matter of Choice--Discusses the techniques used in breast reconstruction, possible complications, answers to common questions, criteria for choosing a plastic surgeon, and issues of emotional adjustment.
10. When Cancer Recurs: Meeting the Challenge Again--Details the different types of recurrence, types of treatment, and coping with cancer's return.
11. Advanced Cancer: Living Each Day--Addresses living with a terminal illness, how to cope, and practical considerations for the patient, family, and friends.

Programs and materials for health professionals or program planners:

BSE-In-Hospitals. This audiovisual program is designed to help nurses teach hospitalized women how to perform breast self-examination (BSE) and to

encourage these women to practice BSE monthly following their hospital stay. Field-test results indicate that women who receive BSE instruction by a health professional report higher rates of BSE practice than those taught by any other method. In addition, these women felt more confident doing BSE and did a more thorough job of examining their breasts. The program has been endorsed by the American Society for Nursing Service Administrators. Program materials include:

Coordinator's Guide which provides suggestions on how to implement the program in the hospital setting; a three-part slide/tape or videocassette on the anatomy and physiology of the breast, and instructions on how to teach patients to do BSE; a brochure for nurses, Teaching Breast Self-Examination, which reinforces the information in the program; a pamphlet for patients, Breast Exams: What You Should Know, describing BSE using step-by-step illustrations; a series of four posters for nurses' stations and lounges to remind them to teach their patients BSE; a certificate for nurses that may be awarded upon completing the training program; and The Breast Cancer Digest.

The Breast Cancer Digest. This newly revised book is written for all members of the breast cancer health care team. It covers the current medical, psychosocial, and educational aspects of breast cancer including detection, diagnosis, treatment, rehabilitation, and breast reconstruction.

Breast Cancer: A Measure of Progress in Public Understanding. This publication is a management summary of NCI's national survey on public knowledge, attitudes, and practices related to breast cancer. This survey was conducted in 1979 among a national probability sample of women and men and a supplemental sample of urban black and Hispanic women. The survey has important implications for health program planners and health professionals.

Standards for Public Education on Breast Cancer. This publication is designed to provide direction for developing public information and education materials and programs about breast cancer. It synthesizes the most current data available on public knowledge, attitudes, and behavior related to breast cancer, addresses the implications of these data for public information program planning and provides recommendations for program objectives, target audiences and communications strategies.

In FY 86, NCI focused its breast cancer program activities on promoting the breast cancer patient materials and the BSE-In-Hospitals Program through professional organizations and groups around the country. In addition, OCC assisted the Secretary of Health and Human Services arrange a conference on breast cancer for American women.

Patient Education Program

The goal of NCI's efforts in the Patient Education Program is to provide those with cancer and their family members the opportunity to gain a sense of control over their lives by giving them information on the disease, its treatment, and psychosocial aspects. Program materials emphasize the following:

1. A diagnosis of cancer should not be considered a death sentence.
2. Living with cancer is frequently accompanied by physical, psychological, and/or social problems. Those with cancer and their families and friends can help themselves lead lives of quality by learning and adopting some useful coping strategies and behaviors.
3. Often, problems in coping with cancer and other chronic diseases are not unique, but are common to many people. However, the usefulness of a particular coping strategy depends on individuals and their circumstances.

The primary audience for the program and the main focus for its materials are those with cancer and their families. The secondary audience includes health professionals and others to whom the patient and family go for care, information and support.

The following materials are available for adults with cancer and their families:

1. Eating Hints--Recipes and Tips for Better Nutrition During Cancer Treatment is a collection of helpful, practical information on making mealtime more pleasant for the patient. Tips for coping with common eating problems and tasty recipes are included in this cookbook-style publication.
2. Chemotherapy and You--A Guide to Self-Help During Treatment addresses problems and concerns associated with chemotherapy treatment. Emphasis is on explanation and self-help. Includes a glossary of terms.
3. Cancer Chemotherapy is a four-page fact sheet addressing how chemotherapy is given, side effects management, emotional aspects of treatment, and questions to ask.
4. Tratamiento de Quimioterapia para el Cancer is a fact sheet on chemotherapy in Spanish.
5. Radiation Therapy and You--A Guide to Self-Help During Treatment addresses problems and concerns of patients in radiation treatment. Emphasis is on explanation and self-help. Includes a glossary of terms.
6. Radiation Therapy for Cancer is a four-page fact sheet addressing how radiation therapy is given, aspects of care, risks involved, side effects, what happens after treatment, and questions to ask.
7. Radioterapia para el Cancer is a fact sheet on radiation therapy in Spanish.
8. What Are Clinical Trials All About? is a booklet explaining various aspects of participation in research studies to prospective participants. Areas covered include what trials are, why they are important, risks versus benefits of participation, types of trials and informed consent.
9. Taking Time--Support for People with Cancer and the People Who Care About Them is a sensitively written booklet for persons with cancer and their

families, addressing the feelings and concerns of others in similar situations and how they have learned to cope.

10. When Someone in Your Family Has Cancer was written for young people whose parent or sibling has cancer. Technical aspects of cancer and its treatment along with emotional concerns are addressed.
11. Control of Cancer Pain is a fact sheet addressing medical and non-medical modalities of dealing with pain related to cancer.
12. Questions and Answers About Pain Control was developed in cooperation with the Yale Comprehensive Cancer Center. This booklet was printed by and is available from the American Cancer Society. Includes information on pharmacologic (with medication) and nonpharmacologic (without medication) options for pain relief.
13. What You Need to Know About Cancer is a series of pamphlets discussing symptoms, diagnosis, rehabilitation, emotional issues, and questions to ask the doctors. This series consists of one general pamphlet and two site-specific pamphlets.

The following materials are available for young people with cancer and their families:

1. Talking With Your Child About Cancer was prepared for parents of newly diagnosed children with cancer. It addresses how to discuss a cancer diagnosis with different aged children.
2. When Someone in Your Family Has Cancer--see Item 10 in section above.
3. Help Yourself: Tips for Teenagers with Cancer was produced in cooperation with Adria Laboratories, Inc. Includes a booklet and an audiotape designed to provide information and support to adolescents with cancer. Issues addressed include reactions to diagnosis, relationships with family and friends, school attendance, and body image. A User's Guide for health professionals is also available.
4. Hospital Days, Treatment Ways was developed for children with cancer. This coloring book explains procedures the young patient may experience in the hospital environment.
5. Diet and Nutrition: A Resource for Parents of Children with Cancer contains suggestions for dealing with nutrition problems arising from pediatric cancer or its treatment. Includes special diets and an attractive poster for convenient display in the kitchen.
6. What You Need to Know About Wilms' Tumor; Child Leukemia--see Item 13 in section above.

The following materials are available for health professionals and others who provide support and information:

1. Coping with Cancer--A Resource for the Health Professional is a reference work on the psychological and social aspects of cancer. Summarizes

issues faced by cancer patients of all ages and their families, and provides practical guidance to caregivers in responding to patient and family needs. Support programs available throughout the country are described. References for further reading and an easy-to-use subject index are included.

2. Students with Cancer--A Resource for the Educator is a booklet for educators of young students with cancer designed to answer questions pertaining to the student's participation in school activities.
3. Services Available to Persons with Cancer--National and Regional Organizations is a reprint from the October 10, 1980, Journal of the American Medical Association, written to acquaint the physician with national and regional organizations with services available to help patients with the psychological, social and economic problems related to their having cancer.
4. Help Yourself: Tips for Teenagers with Cancer: User's Guide is a short leaflet, produced in cooperation with Adria Laboratories, Inc., summarizing the content included in the Help Yourself patient booklet and audiotape. The guide describes how patient materials can be used and provides discussion topics related to the audiotape.
5. Adult Patient Education in Cancer is a reference work on the state-of-the-art of adult cancer patient education. Points out those issues that create the special needs of cancer patients. Programs and activities for meeting these needs, as well as planning and evaluation, are discussed.

During FY 86, OCC developed a Patient Materials Catalog for promotion to organizations and groups around the country. A public service message targeting patients was developed for distribution in FY 87.

Evaluation Program

OCC has been monitoring and directing a three-year contract awarded in April 1985, the purpose of which is to devise and implement an evaluation of OCC public education programs and products. To accomplish this, OCC directed the contractor to write a protocol for the evaluation design, an evaluation "master plan."

The purpose of this plan is to provide an overall strategy and design for measuring qualitative and quantitative impact of our programs. This information will be used further for revision and improvement of current programs and for design of future programs.

This fiscal year the evaluation master plan was created and revised with the input of a panel of experts in the fields of research design/health education and communication. This plan was delivered, finalized and implementation begun. A package for OMB clearance was submitted to seek approval of various measures including telephone surveys, interviews, bounceback cards and questionnaires.

Other evaluation activities carried out this fiscal year include the following:

- Submission and revision of an Interim Report.
- Implementation of five focus groups for the Consumer Nutrition Education portion of the evaluation, a collaboration with Giant Food.
- Presentation of the results of the consumer focus groups to OCC/NCI staff as well as Giant's External Advisory Committee.

Implementation of the evaluation plan will employ two major methodologies, one cutting across OCC programs and the other focusing on packaging/dissemination of particular programs, and will begin the latter half of FY 86.

The staff of the Information Projects Branch consists of Rose Mary Romano, branch chief; Shelagh Smith, Barbara D. Blumberg (left staff in February 1986), Eva Sereghy, Bill Morrison and Joan Houghton, program staff; and Dorothy Kipnis and Sylvia Pines, support staff. Nettie Richardson who worked as part-time support staff as a stay-in-school employee left in January 1986 and was replaced by Khoi Nguyen in April 1986. Two interns trained in the branch as part of the OCC internship program: Ann Marrott (July-December 1985) and Janette Valentine (January-July 1986).

REPORTS AND INQUIRIES BRANCH

The Reports and Inquiries Branch responds to inquiries from the public, cancer patients, and the news media, and disseminates information on research findings and National Cancer Institute activities. Information dissemination occurs in a variety of forms, including reports and other publications, speeches and congressional testimony, magazine articles, and news releases and fact sheets for the news media.

Robert M. Hadsell, Ph.D., served as branch chief until July 1986. Mary Federline, the branch secretary, retired in March 1986.

Reports Section

As in recent years, inquiries from the news media continued at a high level, reflecting interest in all areas of cancer research and activities of the National Cancer Institute and the National Cancer Program (NCP). Section staff responded to about 4,000 inquiries from journalists, representing daily and weekly newspapers, magazines, and the electronic media, as well as newspapers and magazines for physicians and scientists. In addition, section staff initiated contacts with the media on numerous occasions to remind them of upcoming meetings, press conferences, or major reports. NCI administrators and scientists were interviewed for news and comment programs of the major television and radio networks, as well as local stations throughout the country and news organizations from many countries of the world. The documented telephone workload in the section showed an average call load of 15 calls per day to the person taking press calls, and an average of 620 calls per month coming into the section. Based on a very rudimentary record-keeping system (which does not count the calls answered by anyone except the three support staff, and then not consistently), section staff will have handled a minimum of 8000 telephone calls between October 1, 1985, and September 30, 1986. The

heaviest months for press calls were December 1985 and January 1986, when section staff handled the strong media attention given to the LAK cell/IL-2 therapy reported in the December 5, 1986, New England Journal of Medicine by Steven Rosenberg, M.D., Ph.D., Chief of Surgery at NCI.

The most frequent calls were for interviews with NCI scientists, general information about cancer, cancer statistics, AIDS, breast cancer treatment, and diet, nutrition and cancer. Press inquiries otherwise were on a wide variety of topics.

Section staff assisted the American Society of Clinical Oncology (ASCO) in the press room operations at its annual meeting. Five summaries of NCI research findings were prepared, on Dr. Robert Fine's drug resistance work; on Dr. John Wright's probe for gene rearrangements pinpointing the presence of leukemia relapse in children; on Dr S. B. Green's chemotherapy plus radiation treatment for malignant gliomas; on Dr. Eddie Reed's work correlating DNA adducts with anticancer responses in ovarian cancer patients; and on Dr. R. W. Klecker's work on the pharmacology of the new AIDS drug, AZT.

For the annual meeting of the American Association for Cancer Research, staff prepared a summary of the Rhoads Memorial Award Lecture on "Oncogenes, Mutagens, and Cancer," by Mariano Barbacid, Ph.D., of the Frederick Cancer Research Facility, and a summary of The Tenth Richard and Hinda Rosenthal Foundation Award Lecture, "Chemotherapy of the Lymphomas: Looking Back--Moving Forward," by Dr. Vincent T. DeVita, Jr., M.D., NCI Director.

To respond more effectively to inquiries from reporters, section staff prepared updates, backgrounders, and fact sheets on a wide variety of cancer research topics.

Updates: Evidence found in some MS patients for the involvement of a new virus related to the HTLV family, November 1985; Scientists discover new marker for cystic fibrosis, November 1985; Annual statistics update, November 1985; A new approach to cancer treatment (LAK cells/IL-2 therapy), December 1985; Additional centers using LAK/IL-2 cancer treatment, February 1986; AIDS development in HTLV-III infected individuals, February 1986; Cancer and formaldehyde: mortality among industrial workers, March 1986; A new grant: the outstanding investigator grant (OIG), March 1986; Survival and cancer in neurofibromatosis patients in Denmark, May 1986; Herbicide use and cancer in farmers, August 1986.

Backgrounders: National Cancer Institute research on AIDS, May 1986; National Cancer Institute-supported farming studies, August 1986.

Moyer Reports: Section staff prepared NCI input for NIH special reports on NCI-sponsored research accomplishments in digestive diseases, maternal and child health; sexually transmitted disease, aging, diabetes, arthritis, and AIDS.

Statements: Condition Report on John Grotberg, February 1986; Azidothymidine, March 1986; Resistance to anticancer drugs: a hypothesis for a biochemical basis, March 1986; Removal of the tat gene renders HTLV-III harmless, March 1986; AIDS virus isolated from cornea, April 1986; and Diet and Cancer, May 1986.

HHS News Releases: HHS Secretary Margaret Heckler leads off conference on "Report to American Women" on breast cancer, November 13, 1986.

NIH Almanac: NCI input updated, and converted into NCI Fact Sheet.

Section staff prepared briefing materials, wrote speeches, outlines, and talking points for the HHS Secretary for the national conference, "A Report to American Women" on breast cancer, held November 13 in Masur Auditorium at NIH.

Section staff also participated in the preparation of materials for Congress. Specific projects included the traditional statements for both the House and Senate appropriations hearings and the NCI General Statement which is part of the NIH Budget Narrative submitted annually to Congress. The NCI General Statement is a complete overview of the progress and ongoing functions of the National Cancer Program. Section staff also helped plan and prepare briefing materials, and organized and wrote the testimony for the Oakar-Pepper hearings on breast cancer.

Staff also edited the 1985 report of the National Cancer Advisory Board (NCAB), the President's Cancer Panel, and wrote a summary of research highlights for the NCI Director's annual report to the Congress.

Section staff speeches or speech outlines for the NCI Director included: remarks for the annual NCI Awards Ceremony; remarks at the American Italian Foundation for Cancer Research Award dinner; speech at the College of William and Mary for his induction into Phi Beta Kappa (reprinted in the William and Mary News); speech for the American Association for Cancer Research Annual Meeting; comments for the Stanley G. Kay Memorial Award at the ACS Ball; and speech for the Lasker Jury Dinner.

An article was submitted by staff to Cancer Treatment Reports on an expanded rewrite of a paper on the OCC study conducted for the booklet, What Are Clinical Trials All About? Staff also helped write and edit a pamphlet, "Did you know there is a special study at the NCI for women with early-stage breast cancer?"

Staff also prepared a wide variety of informational memoranda that were circulated throughout OCC and often to the Cancer Information Service offices. The staff regularly updated the Cancer-Related Meetings and Events Calendar and sent it out to a regular list of contacts; distributed all the fact sheets, updates, backgrounders, and notes to reporters to approximately 250 individuals each; maintained a wide variety of specialized mailing lists; and distributed other OCC materials weekly to the Cancer Information Services with a special mailing.

About 35 articles of interest to the NCI and NIH communities were prepared for the NIH Record.

A major innovation this past year was continued attempts to automate as many office procedures as possible. Installation of a NBI System 64es enabled 22 members of the Reports & Inquiries Branch to share one ICU; and improved electronic communications capabilities. As a result, the section continued two contracts with vendors of electronic information services--PRWire to put HHS-approved news releases generated by NCI for press conferences on a widely available news wire service that goes to newspapers around the United States,

with subsequent electronic storage on the Nexis system offered by Mead-Data; and access to the complete real-time UPI wire service, and 1/3 of the AP wire.

The section staffing level was reduced in 1985 by the transfer of a senior writer, Eleanor O. Nealon, to the immediate office of the NCI Director. The section gained two new editorial assistants, Nancy Munro in March 1986, and Jill Johnston, in June 1986 (replacing editorial assistant Anne Gooding and secretary Vivian Moses who left in 1985). Other permanent staff are Patricia Newman, section chief; Linda Anderson (promoted to senior writer in December 1985); writers Alice Hamm, Florence Karlsberg, Joyce Doherty and Frank Mahaney; editorial assistant Amelia Champion; and part-time information clerk Marilyn Pazornik. The support staff was supplemented by stay-in-school college student Tu Tran, and summer aide Jacieda Briscoe.

One science-writing intern trained in the section, as part of the OCC internship program: Kathryn Ruddon (July-December 1986).

Public Inquiries Section

The Public Inquiries Section answers written and telephone inquiries about cancer from patients and family members, the general public, health professionals, students and educators, Members of Congress, and other Government officials. In addition, it prepares informational and educational materials for cancer patients and the general public. With the assistance of a support contractor (Biospherics, Inc.), the section responds to written inquiries, operates the Cancer Information Service (CIS)--a national toll-free telephone program that serves as backup to the Institute's Cancer Communications System, and distributes publications in response to incoming requests.

The section's services are based on the National Cancer Institute's mandated mission to provide the American public with the most accurate and up-to-date information about cancer cause, prevention, diagnosis, treatment, and research. The section provides information to the public that combines standard materials with custom-tailored responses designed to meet the individual needs of each inquirer.

In general, the volume of letters, telephone inquiries, and publications requested each year reflects the public's growing interest in advances in cancer treatment, the amount of media attention given to cancer, and the efforts of the Institute to promote its information services through a variety of intermediaries. For example, in FY 1986, the media's coverage of Dr. Steven Rosenberg's work with interleukin-2 and lymphokine-activated killer cells to treat cancer resulted in tremendous interest by the public and a dramatic increase in requests for information. In addition, the section continued its emphasis on cancer prevention, distributing information about diet, smoking, and other aspects of lifestyle that can cause cancer. This effort is designed to contribute to the Institute's goal of a 50 percent reduction in cancer mortality by the year 2000.

In FY 1986 (projecting the last 4 months), the section received 432,590 requests for information (both written and telephone inquiries). There were 182,011 telephone calls: 71,474 were information calls to the Cancer Information Service and 110,537 were publications requests to the Publications Ordering Service. The section prepared 5,974 custom-written letters, a 30 percent

increase over last year. The number of individually prepared, controlled letters for Members of Congress, the White House, and other Government offices more than doubled--from 355 in FY 1985 to 723 in FY 1986. An additional 243,888 standard response letters accompanied publications requests.

Calls to information specialists averaged 5,956 a month. Sixty percent of these calls took more than 6 minutes to answer; 20 percent are more than 15 minutes in length. Followup research was done for 40 percent of calls. Information specialists frequently searched the Institute's PDQ (Physician Data Query) database to identify treatment protocols available for patient entry in response to information requests. In FY 1986, 3,674 PDQ searches were performed, an average of 306 each month.

A major change in the CIS occurred in FY 1986 with the implementation of the Advanced 800 telephone system, which allows for nationwide interception of publications orders to the 1-800-4-CANCER number and automatic routing to the national CIS. This system frees the regional CIS offices of filling publications requests and allows information specialists more time to speak with patients, family members, and the general public. At the national office, a new Publications Ordering Service began in September 1985 to process these publications orders. Telephone operators enter publications orders directly into a computer system through a computer terminal and keyboard. The system then prints labels and order sheets for information aides at the warehouse who fill orders. Calls to the POS average 400 a day during the week and 200 a day on weekends. The POS is receiving 10,000 calls per month as originally projected, with the highest monthly volume, in March, at 12,575.

In addition to requests to the POS, materials were distributed in response to promotions by OCC of its breast cancer and smoking publications. The most popular titles were Good News (cancer prevention), Quit It and Quit for Good (smoking), and Breast Exams. In FY 1986, more than 14 million publications were distributed, as compared to 20 million in FY 1985. This decrease reflects Government printing restrictions and the subsequent limits that were placed on the numbers of booklets that could be ordered.

In FY 1986 writers in the section developed a number of new publications in the Research Reports series and updated others. These included booklets on the following cancer sites: bladder, prostate, uterus, ovary, stomach, brain, liver, colon, pancreas, skin, kidney, and mouth as well as on mesothelioma, Hodgkin's disease, and bone marrow transplantation. Other writing projects included beginning the complete revision of the patient-oriented "What You Need to Know" series. Pamphlets revised were on breast, lung, skin, uterus, cervix, prostate, testis, melanoma, and cancer (general).

Staff of the Public Inquiries Section included Carol Case, section chief; writers Joan Chamberlain and Chris Thomsen; information assistant Liz Orellana; secretary Sheila Stempler; and summer clerk typist Nina Green. Two communications interns joined the section for 6-month assignments: Anne Lewis and Tom Quinn.

INFORMATION RESOURCES BRANCH

The Information Resources Branch is a service branch with numerous responsibilities to support the activities of the Office of Cancer Communications (OCC).

The Branch includes the Document Reference Section (DRS) which is a central information resource for both OCC and the Institute. The DRS houses an extensive in-house collection of publications news releases and audiovisuals and provides easy access to a number of on-line databases. The DRS is a major resource for OCC staff responsible for answering press and public inquiries and for staff and contractors developing new materials for patients and professionals.

The Graphics and Audiovisual Section (GAV) is also included within the Information Resources Branch. GAV is responsible for coordinating a major portion of OCC graphic design and printing requirements as well as for the OCC Exhibit Program and a variety of other services.

E. Joseph Bangiolo, former Branch Chief, left the Institute in April 1986. Nancy Brun was appointed Acting Branch Chief.

Graphics and Audiovisual Section

A major responsibility of the Graphics and Audiovisual Section (GAV) is design and production of the vast majority of all NCI printed materials. The section, however has other important responsibilities, namely the planning, design, and production of OCC exhibits; widespread distribution of OCC publications through U.S. supermarkets and audiovisual materials through a nationwide free-loan program; development and maintenance of photo/slide archives and responses to requests for these materials; production of audiovisuals, such as slide-tape shows, films, TV and radio public service spots, and video footage for media use; response to Freedom of Information and Privacy Act requests; coordination of NCI special events, such as award ceremonies; development and maintenance of NCI mailing lists as well as coordination of a large number of OCC promotional mailings including Special Communications; NCI publication and speech clearance; and production and distribution of the "NCI Current Clips." Listed below are some highlights from these projects.

Design and Printing Services: By the end of the fiscal year, it is estimated that NCI staff will have submitted more than 300 jobs to the Section for printing. Many, submitted in manuscript, required major design work as well as coordination through the final production stage. A few of the new publications appearing this fiscal year include: When Someone In Your Family Has Cancer; Talking To Your Child About Cancer; Investigational Drug Accountability Record; Services Available To People With Cancer; and two new versions of Diet, Nutrition and Cancer Prevention: A Guide To Food Choices. GAV also assisted in the design of other projects such as posters for the Office of Equal Employment and the Division of Cancer Treatment's "A Manual for Participants in Clinical Trials of Investigational Agents...."

Exhibit Program: The Exhibit Program continued to be an effective way of communicating health education NCI messages face-to-face with targeted professional audiences. With logistical help from contractor SRA Technologies, OCC will have attended 19 professional meetings this fiscal year. These included the American Dietetic Association, American Academy of Family Physicians, American Pediatric Oncology Nurses, American Public Health Association, American Society of Hospital Pharmacists, Oncology Nursing Society, American Society of Clinical Oncology, and the National Medical Association. At the American Academy of Dermatology exhibit, OCC introduced

its new educational materials on dysplastic nevi and melanoma. This year OCC exhibits featured prevention messages as well as messages to encourage cancer patient education.

Audiovisual Services: GAV continued efforts in reorganizing the OCC slide/photo archives. However, despite plans to increase the size of the collection, loss of the OCC staff member assigned to this project kept growth less than originally planned. GAV responded to many requests for photographic services during the fiscal year. Many of these were requests for "working portraits" of NCI scientists whose work was being featured by the media. Other photographs were needed as illustrations for newly designed publications. One such example was the "Manual for Participants in Clinical Trials...." GAV also produced media background videotape (B-roll) on the NCI drug development program for Acquired Immune Deficiency Syndrome (AIDS). Plans are under way to also feature other aspects of NCI research.

Publication and Audiovisual Distribution Services: Through a contract with Supermarket Communications Systems, Inc., the section distributed more than one-million publications in 6,000 supermarkets across the country. The titles distributed during this fiscal year included Testicular Self-Examination, Breast Exams: What You Should Know, and Diet, Nutrition and Cancer Prevention. A free loan program for three NCI-developed videotapes on dysplastic nevus syndrome and its relationship to melanoma continued. This fiscal year the videotapes were supplemented by collateral materials including posters for physicians offices, patient pamphlets and professional education slide sets for clinicians and pathologists. These new materials were introduced at an NCI exhibit at a meeting of members of the American Academy of Dermatology. By year's end, more than 100,000 persons will have used these materials.

Clearance and Newscipping Services. The section provided a daily newspaper clipping service for the NCI professional staff, the Cancer Information Service, and members of the President's Cancer Panel, and the National Cancer Advisory Board. The section screened eight major daily newspapers, and a variety of weekly and monthly scientific and lay magazines and journals for topics of current scientific and political interest to NCI. Approximately 250 nonresearch materials, including pamphlets, fact sheets, special communications, NIH Record stories, speeches, and press releases, were submitted to the section and processed through clearance.

Freedom of Information. The section is responsible for processing requests submitted under the Freedom of Information and Privacy Acts. By the end of the fiscal year, an estimated 125 FOI and 250 Privacy Act requests will have been processed.

Mailing Services. During the year, the section continued the task of updating its 60 mailing lists and instituting a system to accommodate persons requesting to be placed on an NCI mailing list. In addition, the section coordinated promotional mailings that reached tens of thousands of lay persons and professionals. These mailings included promotions on smoking, prevention, and breast cancer materials as well as special communications on a variety of topics.

The Section underwent several changes in staff during the year. Arlene Soodak-Cohen resigned as Visual Information Specialist in November. Robin Winterrowd was hired as a Visual Information Specialist in February and Margaret Bartlett joined the staff in July. Jean Moore, a volunteer, provided much needed assistance in coordinating the NCI Newsclips production as well as publication clearance. Nancy Brun continued as section chief and Beverly Gamble, as printing clerk. Jacqueline Roebuck provided clerical and other assistance during the summer.

Document Reference Section

The Document Reference Section is a central informational resource for OCC and the Institute. Published and unpublished materials are collected, indexed and made available to specific users. The in-house collection is made up of public/press inquiry records, news clips, scientific publications, audiovisuals and other significant documents. The database is a searchable on-line catalog of holdings, used to locate materials when needed. Over the past year the collection/database has grown by nearly 5,000 items to a total of 65,000. Full implementation of the microcomputer-based system, purchased to assist with journal routing, check-in, and claiming, was accomplished by in-house staff.

In addition to work with the collection, section staff provide access to other major health-relevant databases and electronic resources. These include databases sponsored by the National Library of Medicine (MEDLINE, PDQ, CANCERLINE, CLINPROT, TOXNET, etc.), Colleague (from BRS), and MEDIS from Mead Data. Access to current news databases such as those offered by CompuServ, VuText, and DataTimes allows the section to support the Institute with data useful in public information work. Searches by section staff aided health communicators, scientists-administrators, and public information specialists in responding to inquiries and developing information projects.

The section is staffed by two librarians: Patti Dickinson, section head, and Judith Grosberg, staff librarian. Judy Wilkerson, a student at the University of Oklahoma, completed an internship in the section in December and accepted a position in Dallas, Texas, as a university librarian.



ANNUAL REPORT
OFFICE OF THE DIRECTOR FOR PROGRAM PLANNING AND ANALYSIS
NATIONAL CANCER INSTITUTE
OCTOBER 1, 1985 - SEPTEMBER 30, 1986

OFFICE OF THE DIRECTOR

The Office of Program Planning and Analysis (OPPA) provides leadership, consultation and direct participation in: program analysis, planning and evaluation; the design, development and support of management information systems; providing design, development and support for selected office automation and information planning (OA/IP) projects and for coordination of OA/IP activities throughout the Institute.

Organizationally, it is located in the Office of the Director (OD), NCI, to enable it more effectively to provide its services to all operating units of the NCI, and, at the discretion of the Director, to non-Federal organizations participating in the National Cancer Program (NCP). Operationally, it carries out its responsibilities as required in close collaboration with the NCI divisions and operating units, and with various offices at the NIH, DHHS and other Federal agencies.

The Office of Program Planning and Analysis consists of two branches: the Systems Planning Branch (SPB) and the Management Information Systems Branch (MISB). The SPB is responsible for planning, operations research, systems analysis, and evaluation. The MISB is responsible for the design, implementation, operation, and support of management and administrative systems.

The Associate Director's Office has overall responsibility for and directs activities in planning, evaluation, organizational structure and information systems. During this past year, the Associate Director led planning studies, notably for the AIDS drug development program; directed a Division of Extramural Activities management study; assisted the NCI divisions and OD by serving as a member of the Task Force on NCI's Policy on Screening and as a member of the OD Management Improvement Committee (also known as the Productivity Improvement Program). The Associate Director also served as Chief of Project Officers for the OD, NCI. The most important activities are described more fully in succeeding sections.

PLANNING AND EVALUATION

The Systems Planning Branch is responsible for carrying out activities in the areas of planning and evaluation. These include the development and application of systems analysis, planning, evaluation, and operations research techniques to cancer research and control activities; providing direct support for the National Cancer Program planning at the national and individual program levels; and participating in NIH and Department level planning.

Staff directs planning meetings; participates as members of planning teams organized to develop individual program plans; works directly with program and administrative personnel in the development of operational plans; maintains liaison with program personnel; provides periodic consultation and directs efforts, as requested by program leaders, to revise and update both program and operating plans; provides education and training in the use of systems techniques; and works closely with the financial management staff during the budget preparation cycle to correlate budget preparation with existing plans.

Specific planning activities engaged in during the past year are described in the paragraphs that follow:

A. AIDS

SPB participated in the planning of the high priority joint NCI/NIAID "AIDS Drug Development Program." Drawing upon input from the Director, NCI and DCT personnel, OPPA staff developed a linear array whose purpose was to expedite the identification and development of drugs that will effectively control HTLV-III, the AIDS virus. All aspects of the drug development program are laid out in this plan, starting with acquisition of candidate antiviral drugs through pharmacology, clinical trials and ending with the submission of a new drug application to the FDA. Each of the 16 steps in the process has a decision point for which criteria have been established. The agent must meet these criteria in order to pass to the next stage. Although the main goal of the effort is control of HTLV-III infections, the program flow depicts an organization of clinical trials that will allow clinicians to determine the effects of candidate drugs in preventing, controlling, or reversing the destructive manifestations of AIDS.

Planning efforts continue for programs in Screening, Cancer Centers, and Rehabilitation. Each planning group consists of representatives from the NCI divisions conducting research in that particular area as well as senior members of the OPPA staff. During program planning, considerable emphasis is placed on developing or refining evaluation criteria so that planning may be thoroughly integrated with evaluation.

- B. The National Cancer Program 1985 Director's Report/Annual Plan (DR/AP) for FY 1987-1991 for submission to the President and the Congress as required by law was completed. This report describes National Cancer Program progress during 1985, current activities, and planned efforts for the 5-year planning period, including budget projections.
- C. The 1985 Director's Report/Annual Plan was markedly modified to include more planning information, directed particularly toward describing how the Institute plans to achieve the national goals for the Year 2000. Planned activities are laid out at the higher fiscal levels specified in the by-pass budget. Several changes were made in the 1985 Annual Plan in order to emphasize its planning aspects. The Director's Report portion will be published separately and will describe the accomplishments of the program in a manner suitable for the lay reader and thus be appropriate for wide distribution. In addition, the chapter describing the activities of other participants in the National Cancer Program will be a separate report. This

compilation of the work and the fiscal data of nonprofit organizations, industries, other government agencies, labor, etc., has become quite extensive. As the single source of such information, it is of interest to a large number of readers. Because fiscal data for many groups are not available until the end of the calendar year or later, it was planned to produce this report in 1986. The change in legislation described in the paragraph below makes the report unnecessary.

After extensive internal and external review (NCAB, NIH, OMB, OASH, etc.) and incorporation of review comments, the report has been submitted to the Secretary for transmittal to the President and the Congress and will be distributed to research and educational institutions, voluntary organizations, and Federal, State, and local agencies involved in cancer-related activities.

Since the Director's Report/Annual Plan highlights accomplishments during the past 2 years as well as forecasts future activities, it is a valuable reference tool for information on all aspects of the National Cancer Program.

The Health Research Extension Act of 1985 (P.L. 99-158) eliminated the requirement for an annual report as well as a 5-year plan for submission to the President and Congress. Henceforth, an NCI report will be included in the NIH Director's biennial report to the President and to the Congress. The NCI portion of this biennial report was prepared and submitted to the Director, NIH. Four managerial initiatives were reported: the NCI super-computer; NCI partnership with State and local health agencies; Physician's Data Query (PDQ) that is now available from three vendors, two domestic and one in Europe; and animal facility consolidation.

The areas of scientific progress and opportunities covered include: AIDS; Viral Oncogenes as a Cause of Human Cancer (HTLV-I & -II, Papillomaviruses, EBV & Hepatitis B); Pleiotropic Drug Resistance: Biochemical & Molecular Genetic Approaches to Understanding and Overcoming Resistance; Adoptive Immunotherapy: Improved Methods & Clinical Trials; Adjuvant Chemotherapy; Mechanism-Oriented Drug Screen; and Cancer Metastasis.

- D. Coordinated the preparation for NCI participation in the Director's (NIH) Forward Planning Review Session including: (1) development of agenda items; (2) preparation of a briefing book for the Director, NCI and staff; and (3) coordinating and reporting action items which resulted from the Review Session discussions. The purpose of the Review Session is to prepare the Director, NIH, for the upcoming congressional appropriation hearings and items to be discussed at that time. Agenda items for this year's sessions were divided into two categories: (1) high-priority areas of scientific opportunity, and (2) other program issues likely to be raised at the appropriation hearings. The high-priority items discussed included oncogenes, Papillomaviruses, HTLV, AIDS, genetic technology, monoclonal antibodies, invasion and metastases, chemoprevention, cancer clinical trials, cooperative drug discovery groups, disease-oriented screening of antitumor drugs, novel differentiating anticancer agents, biological response modifiers, and tumor cell drug resistance. The rationale for according these areas high priority and their FY 1984, 1985, and 1986 funding were described.

- E. Prepared the 1987 NCI Evaluation Plan which included a description of recently completed, ongoing, and planned Institute evaluative efforts (set-aside and nonset-aside). Assistance was provided to NCI staff in the development, implementation, and administration of evaluation projects, including the preparation of close-out documents for completed projects.

Close-out submissions include an executive summary, assessment of benefits, and an impact statement describing the importance and implications of the study for the program and any decisions that have been or will be made as a result of the study. Progress reports are prepared for multiphase or long duration projects.

The proposed set-aside evaluation budget for FY 1987 was \$1,186,000 involving seven projects. No new projects were proposed; all are continuations from previous years.

The evaluation projects are:

NCI 82-303	Cancer Therapy Evaluation Program (CTEP) Information System
NCI 83-301	Integrated Evaluation of Community Cancer Care Programs
NCI 83-304	An Assessment of the Factors Affecting Critical Cancer Research Findings
NCI 83-305	Evaluation of NCI Mass Media Program Television Public Service Announcements
NCI 84-401	Evaluation of NCI's Cancer Communications Program
NCI 84-403/405	Evaluation of the International Cancer Information Products and Services
NCI 85-401/402	PDQ Users Group and Vendors Evaluation

Material was prepared for NCI participation in Evaluation Plan Review Sessions at OD, NIH and departmental levels. The Branch coordinates and reports any NCI activity action items which result from Review Session discussions. Branch personnel attend and participate in all reviews.

Starting in FY 1985, no set-aside funds were provided the BIDs for evaluation projects. These projects must be supported from BID program funds.

- F. Coordinated the preparation of NCI's contribution to the FY 1985 Maternal and Child Health Inventory. The submission included a listing of NCI projects (grants, contracts, interagency agreements, and intramural projects) where there was a major emphasis on maternal and child health, a summary narrative describing NCI efforts in this area, and a table showing the numbers of projects and dollar amounts by mechanism of support.
- G. Other staff activities included:
- ° Consultative services to NCI divisions and OD, in planning, information, and evaluation, and monitoring of support service contracts.
 - ° Evaluation of the Frederick Cancer Research Facility data processing contractor which supports four other contractors as well as NIAID, NINCDS, and NCI staff.

- ° Project Officer on Support Services Contract which serves the OD, NCI. Considerable staff time was required for recompetition, the startup of the new contract, and contract monitoring.
- ° Project Officer on an evaluation contract to determine the principal contributors to selected advances in cancer research 1965 to 1982, how they have been supported, and where they performed their work.
- ° Alternate NCI representative to the NIH Women's Health Issues Committee.

MANAGEMENT INFORMATION SYSTEMS

The Management Information Systems Branch (MISB) is responsible for:

- A. The design, implementation, maintenance and coordination of a network of Management Information Systems (MIS) for NCI which provide information on budget and intramural program obligations, personnel, space, various tracking activities, and other primarily administrative activities;
- B. Coordination of a variety of NCI automatic data processing (ADP), information resource management (IRM) and office automation/information planning (OA/IP) activities; and
- C. Consultation with Institute staff on the application of ADP and OA/IP technology to the administration and management of NCI resources.

The MIS is composed of a network of user oriented and managed systems which both support individual operating areas and provide consolidated reporting of information across organizational lines. Systems are developed by request and with the participation of the user organizations. Current MIS systems support areas within the OD and several of the divisions with priority given to applications for the Office of Administrative Management.

Maintaining the operational status of current systems is the primary responsibility of MISB staff. System enhancements, development of new capabilities and redesign to incorporate new requirements and technologies are provided as resources permit.

Typical MIS activities include development of specifications for changes in existing systems or for new applications; implementing programs or testing contractor-developed software; providing documentation which includes manuals for operators and maintenance programmers as well as system overviews; installing the software; training users and resolving operational problems. Integration of new technologies into the MIS is routinely considered both as part of the design of both new systems and as modifications of existing capabilities. Specific projects in this area during the year included:

- A. Installation of the new NCI Full-Time Equivalency (FTE) System in the administrative offices for OD, DCBD, DCE, DCPC, DEA and DCT to give divisions the ability to monitor and project FTE usage. The same capability was provided to four program areas in DCE and six program areas in DCT.
- B. Design of the Laboratory Applicant Biographical System and implementation of the data entry and system maintenance modules. This system will provide and maintain, for the Personnel Management Branch (PMB), a file of applicants

for laboratory specialist positions and will include the laboratory skills and the relevant education of each applicant.

- C. Design and implementation of a PC-based SF-52 tracking system for the PMB.

This system combines the features of two previous systems (a mainframe biweekly reporting system and a WYLBUR data file for tracking) to reduce data entry and increase consistency in reports.

- D. Review of all active systems, implementation of necessary FY 1986 changes, and updating of affected documentation. Typical FY 1986 changes included modification of the Financial Data Reporting System (FDRS) for OD to allow more flexible appropriations and balance reporting and of the Detailed Transaction History System (DTHS) to simplify the monthly creation of DTHS subfiles for various NCI components. DCRT changes and modifications to non-MIS systems were routinely reviewed throughout the year and changes made as required.
- E. Design and implementation of a Position Description Management System to provide to PMB online access to information on NCI position descriptions. This system should reduce duplication of effort in the development of new position descriptions and assist in monitoring the cycle of classification reviews.
- F. Addition of a new report to the NCI Personnel System to summarize all NCI on-board counts for ceiling and non-ceiling personnel, the ceiling for each division, and the total NCI ceiling. The monthly system was modified to automatically obtain these personnel ceilings from the Personnel Services Forecasting System to eliminate manual entry.
- G. Enhancement of the DCE/FDRS to modify reports and to incorporate data from the FCRF accounting system.
- H. Modification of four NCI systems to provide adequate file backup and incorporate Resource Access Control Facility (RACF) to protect from unlawful access. The four systems, the NCI Personnel System, Personnel Vacancy Applicant System, Employee Training System, and the NCI Gift Fund System, contain sensitive information.

MISB staff time devoted to coordination activities in ADP, OA and IRM increased again relative to previous years. Major projects included:

- A. Coordinating the OD portion and the complete NCI submission of the FY 1988 Information Technology Systems (ITS) Financial Budget. This document included an Executive Summary, the ITS Budget Justification, the HHS Major Acquisition Plan and accompanying justification, the FY 1987 Acquisition Plan, Inter- and Intra-Agency Payments and Collections, and Exhibit 43A for OMB Circular A-11.
- B. Initiating a study of word processing software available for the IBM and compatible personal computers. The purpose of the study is to recommend a word processing package for administrative applications in the Institute. NCI staff identified by the divisions have been surveyed to determine re-

quirements and to provide information on current capabilities. Published reviews of over 100 packages have been examined to establish a group of about 20 for additional consideration. This group will then be reduced to three packages for detailed evaluation.

- C. Providing two members of the MISB staff to serve as Lead Users and coordinating NCI participation in the Lead Users Program. Activities included chairing the Telecommunications Work Group, helping organize and assist the PMB Lead Users, evaluating software, and contributing to the planning for and participating in the User Resource Center Software Fair.
- D. Serving as the NCI Office Technology Coordinator (OTC). The OTCs provide a network for NIH OA activities and are responsible for distributing OA information. This information and the results of contacts with other Federal organizations and vendors is distributed through either the NCI OA/IP Steering Committee, desk-to-desk memorandums, or meetings with NCI staff.

Chairing the OTC Work Group on Hardware Inventory. This group, with NIH BID representation, developed the specifications for a hardware inventory system for use throughout NIH.
- E. Providing Optical Character Reader capabilities to NCI staff so that text not available in automated format can be utilized or incorporated into new material without retyping.
- F. Developing and distributing an NCI Communications Handbook with instructions for communicating with Lexitron, NBI, and Lanier word processors both point-to-point and to the DCRT mainframe computers through Wylbur. The handbook also provides access to Wylbur command procedures which facilitate exchanging documents with Wylbur.
- G. Serving as a member of the Acquisition Committee of the NIH IRM Council, which helps NIH staff deal with ADP clearance and procurement regulations, participating in the NIH IRM Council, and reviewing related material including NIH's IRM Strategic Plan for FY 1988-1992.
- H. Monitoring NIH risk analyses of NCI critical or sensitive systems as the NCI ADP Systems Security Coordinator.
- I. Editing, resolving discrepancies and incomplete data, correcting and updating the 1986 NCI ADP/OA Hardware Inventory.
- J. Consulting with a variety of individuals from NCI and other organizations on use of ADP support contractors, functional specifications for non-MIS systems, development of OA position descriptions and requirements for a hardware inventory, and reviewing technical and business proposals for non-MIS contracts.

Continuation of the study of administrative/management procedures in the Division of Extramural Activities including the following:

- A. Definition of the information requirements of the Committee Management Office, and an analysis of the paperflow.

- B. An examination of the current procedures of the Board Preparation Unit and the Referral Office.
- C. A review of the effectiveness of the office automation equipment currently in the Grants Review Branch.
- D. A survey of the service provided by the Research Analysis and Evaluation Branch, the resources required to provide these services, and the use of the services.
- E. Development of a proposal for several organization changes affecting primarily the Office of the Director.
- F. Additional work on clarifying the duties and responsibilities of DEA senior staff.

In the coming year, the focus of support for DEA will shift from initiating additional studies to implementing recommendations from completed studies.

Departmental approval for the NCI MIS included the condition that project results could be transferred to other institutes and to other agencies. This effort was continued in the following ways:

- A. MISB determined local parameters, installed software, trained staff and provided documentation for the new NCI FTE System to the Division of Epidemiology and Clinical Applications, NHLBI and to NICHD.
- B. Supplied complete documentation for the NCI Employee Training System to the private company selected to develop the prototype computerized training management system for HHS.
- C. Transferred software and complete documentation for the NCI Personnel Vacancy Applicant System and the NCI Employee Training System to NHLBI.

MISB staff obtained technical support from one contractor and two interagency agreements. These projects are described in the accompanying narrative.

CONTRACT NARRATIVE
OFFICE OF THE DIRECTOR FOR PROGRAM
PLANNING AND ANALYSIS, NCI
FY 1986

CONTRACTOR: Computer Horizons, Inc. (N01-CO-33933)
Subcontractor: Dynamac, Inc.

TITLE: Assessment of Factors Affecting Critical Cancer Research Findings

CONTRACTOR'S PROJECT DIRECTOR: Samuel Reisher

PROJECT OFFICER: Barbara R. Murray

OBJECTIVE: To determine who have been the principal contributors to selected advances in cancer research during the period 1965-1982, how they have been supported (i.e., contracts, grants), and where they performed their work, so as to determine if a significant relationship exists between the research event, the funding mechanism and the location of the performer.

MAJOR ACCOMPLISHMENTS: To date, detailed historical traces have been completed on 10 cancer research events (publications, citations, co-citations, etc.). Bibliometric analysis has been carried out on ten of the research findings.

SIGNIFICANCE TO THE NATIONAL CANCER PROGRAM: For many years, statements have been made regarding the notion that the quality and significance of research varied depending on the mechanism of support (i.e., contracts vs. grants) and the location of the performer (i.e., intramural vs. extramural). This project will provide a model for determining the significance of these statements.

PROPOSED COURSE: To complete the contract and assess 13 critical cancer findings in terms of the objectives of the study.

DATE CONTRACT INITIATED: September 1983

TOTAL VALUE OF CONTRACT: \$646,000 [Funded in part by Evaluation Set-aside funds (\$200)]

CONTRACT NARRATIVE
OFFICE OF THE DIRECTOR FOR PROGRAM
PLANNING AND ANALYSIS, NCI
FY 1986

CONTRACTOR: Prospect Associates (Contract NIH-N01-CO-54058)

TITLE: Systems Planning Services for the National Cancer Institute

CONTRACTOR'S PROJECT DIRECTOR: L. John Alciati

PROJECT OFFICER: Barbara R. Murray

OBJECTIVE: To provide the support services necessary to assist the Office of the Director, NCI, in meeting the expanded responsibilities established by the National Cancer Act of 1971 and subsequent amendments.

MAJOR ACCOMPLISHMENTS: The activities include support services for program planning, the preparation of briefing and presentation materials, administrative and logistical support to the Office of the Director for planning conferences and meetings, and assistance in the preparation of draft documents required to develop the National Cancer Institute Director's Report/Annual Plan.

SIGNIFICANCE TO THE NATIONAL CANCER PROGRAM: The expanded scope and responsibilities of the National Cancer Program have imposed additional requirements for reporting, planning and analyzing alternative courses of action. This contract provides assistance in areas which could not be performed within the NCI.

DATE CONTRACT INITIATED: March 1, 1985

TOTAL CONTRACT VALUE: \$1,388,131

CONTRACT NARRATIVE
OFFICE OF THE DIRECTOR FOR PROGRAM
PLANNING AND ANALYSIS, NCI
FY 1986.

CONTRACTOR: System Sciences, Inc. (N01-CO-33854)

TITLE: NCI Management Information Systems Support Services (Programming)

DATE CONTRACT INITIATED: May 26, 1983

TOTAL VALUE OF CONTRACT: \$673,898

CONTRACTOR'S PROJECT DIRECTOR: Christopher Gordon

OBJECTIVES: To provide technical support services to the Management Information Systems Branch in the expansion, maintenance, and operation of NCI's Management Information Systems and to support other computer-related activities of the Branch. Specific activities include preparation of detailed flowcharts, programming of computer routines, debugging and testing of programs, providing technical documentation, supporting operations and training users.

MAJOR ACCOMPLISHMENTS: A new FTE system was implemented for DCT and has been installed in all other divisions and several other BIDs. Three personal computer based systems were developed for and installed in PMB; these systems provide SF-52 tracking and biweekly status reports, inventory and assist in managing NCI position descriptions, and maintain a data base of available applicant and associated experience and education for laboratory specialist positions. Routine maintenance, fiscal year changes, system enhancements and operational support were provided for existing MIS systems.

SIGNIFICANCE TO THE NATIONAL CANCER PROGRAM: The National Cancer Act of 1971 provided for improved information systems. This contract gives NCI the programming support required to maintain the operational status of the Management Information Systems, to implement new modules and to assist in coordination activities of the MISB.

PROPOSED COURSE: To continue the current pattern of maintenance, operational and development support for MISB activities.

CONTRACT NARRATIVE
OFFICE OF THE DIRECTOR FOR PROGRAM
PLANNING AND ANALYSIS, NCI
FY 1986

CONTRACTOR: General Services Administration, Office of Software Development
and Information Technology (Y01-CO-50736)

TITLE: Paperflow Analysis and Information Requirements of the Board Preparation
Unit (BPU) and Referral Office (RO), DEA

DATE CONTRACT INITIATED: September 19, 1985

TOTAL VALUE OF CONTRACT: \$53,708.42

CONTRACTOR'S PROJECT DIRECTOR: William C. Davis

OBJECTIVES: To determine and analyze the flow of information and material
within, into and from the BPU and the RO; to identify any procedures that
could be streamlined or modified to improve efficiency of operations; and to
prepare specifications for those procedures which could be significantly enhanced
by automation.

MAJOR ACCOMPLISHMENTS: Interviews were held with personnel from the BPU and
RO, Program Directors, Executive Secretaries and the Division of Research
Grants, NIH. Current automation capabilities were reviewed. Requirements were
developed and alternatives to current procedures were evaluated. Recommendations
were made for streamlining operations.

SIGNIFICANCE TO THE NATIONAL CANCER PROGRAM: The interagency agreement provided
technical support to evaluate and recommend improvement in current operations
and procedures before initiating automation activities.

PROPOSED COURSE: Support for selected high priority OA activities will be
provided under similar interagency agreements.

CONTRACT NARRATIVE
OFFICE OF THE DIRECTOR FOR PROGRAM
PLANNING AND ANALYSIS, NCI
FY 1986

CONTRACTOR: General Services Administration, Office of Software Development and Information Technology

TITLE: Analysis of Activities of the Research Analysis and Evaluation Branch (RAEB), DEA

DATE CONTRACT INITIATED: March 3, 1986

TOTAL VALUE OF CONTRACT: \$55,818.50

CONTRACTOR'S PROJECT DIRECTOR: William C. Davis

OBJECTIVES: To identify the routine and special activities of RAEB, the cost of providing each of these services, the value of RAEB products to the recipients, and the availability of this information from other sources.

MAJOR ACCOMPLISHMENTS: Based on RAEB documentation and interviews with RAEB staff and personnel from other NCI offices that interact with RAEB (e.g., the Office of Cancer Communications, Financial Management Branch, Extramural Financial Data Branch, and Congressional Liaison Office) all products and services were identified, product distribution was documented, and production schedules were reviewed.

SIGNIFICANCE TO THE NATIONAL CANCER PROGRAM: This interagency agreement described RAEB products and their use and reviewed operating procedures to assist DEA in determining whether adequate resources are available to provide key services and whether changes in operating procedures could increase efficiency.

PROPOSED COURSE: Support for selected high priority OA activities will be provided under similar interagency agreements.





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